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The Basis of Naturalism

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Declaration

I hereby declare that the work presented in this thesis is my own:

Abstract

This thesis explores how broadly naturalism can and should be construed. Orthodox naturalism assimilates the world of nature to the world as unveiled by the natural sciences. However, an exclusively scientistic conception of nature appears to exclude the ordinary, pre-philosophical understanding many facets of human life: minds, agency, mathematics, language, morals and normative phenomena more generally. It is clear, however, that any project that intends to expand the scope of the natural beyond that which is explicable through the natural sciences must still impose some limits if it is to retain the title of “naturalism”. Without such limits, there would be no reason to exclude paradigmatically non-natural entities, phenomena and explanations—gods, ghosts, magic, etc.—from our understanding of the world.

This thesis rejects the narrow construal of nature offered by orthodox naturalism, and—without limitation to any single area of philosophy in which naturalism is a salient issue—explores the basis on which broader limits might be drawn. It addresses the question of why a more liberal naturalism, one that rejects the primacy of the natural sciences in distinguishing the natural, should still merit the label “naturalism”.

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Chapter 1 – The Clash of Images

Naturalism is at the forefront of many of the problems that contemporary philosophers concern themselves with. Where it is not at the forefront, it often lurks in the background.

At its most basic level, naturalism is the view that the natural world is all there is. In this thesis, I take it for granted that some form of naturalism is true. Any true account of the world and the things that make it up, including human beings, must be naturalistic in some sense. We must be able to see any property or thing that exists as part of the natural world. However, taking some form of naturalism for granted leaves open many questions about its precise content. Barry Stroud has compared naturalism to the idea of world peace—“Almost everyone swears allegiance to it, and is willing to march under its banner... But disputes can still break out about what it is appropriate or acceptable to do in the name of the slogan.”¹

The disagreements about what things are, as Stroud puts it, acceptable to do in the name of naturalism fall along different axes. First, there is the question of just how restricted the world of natural facts should be—should it be limited to a small sub-set of the facts discovered by the natural sciences, such as physics, physiology and chemistry. Or should it also embrace a wider set of facts which, although not supplied by the natural sciences, should not be considered to be mysterious or spooky.

A second question (or set of questions), once the line has been drawn, is to determine just which things that are commonly believed to be the case can be considered to be naturalistic, and what are the consequences for the things that cannot be considered naturalistic. This typically results in a programmatic attitude. Contemporary naturalists often see the task of philosophy as one of ‘naturalising’ theories or phenomena that do not appear to be in an appropriate shape to be given a rigorous scientific

¹ (Stroud, 2004, p. 22)

treatment. They see their job as domesticating recalcitrant common-sense or philosophical errors to the natural world.

The predominant form of naturalism in modern philosophy takes the natural world to be defined by the natural sciences. I will call this view scientific-naturalism and its adherents scientific-naturalists.

Scientific-naturalists hold that the natural sciences have a monopoly on accurate descriptions of reality. Different scientific-naturalists may be more or less restrictive in the conceptual resources they license. At its most extreme, Scientific-Naturalism holds that anything that is true can be stated in the vocabulary of fundamental physics. A milder form, more sceptical about ability of physics to describe all of nature, may admit concepts used in other sciences such as chemistry and biology. However, all agree that any concepts that fall outside the exclusive set of concepts characteristic of the natural sciences, or a preferred subset of the natural sciences, cannot be part of a genuinely true description of the world.

Perhaps the clearest statement of it comes from Sellars:

“In the dimension of describing and explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not.”²

Indeed, while Sellars might be thought of as an enemy of scientific-naturalism in its more reductive guises on account of his insistence on the irreducibility of the normative to the non-normative, it is clear from the passage above that he accepts the ontology of the natural sciences.

² (Sellars W. , Empiricism and the Philosophy of Mind, 1997) section 42

Some writers on this subject distinguish between methodological naturalism and ontological naturalism.³ Ontological naturalism is concerned with the types of facts and entities that are admissible. According to a scientific worldview, quarks, neutrons and neurons and the facts involving them will pass muster according to a scientific ontological naturalism, whereas those involving ghouls, ghosts and witches will not.

Methodological naturalism on the other hand is concerned with the way in which investigations are made. For the scientific naturalist, it will be the scientific method that will yield naturalistically respectable philosophical theories, whereas theories yielded by other tools of the trade—say conceptual analysis, thought experiments, or intuitions—may require additional scrutiny to render them naturalistically respectable. Such a view may be thought by scientific naturalists to have the distinct advantage that although the ontology yielded by future science is uncertain, the scientific method will surely have roughly the same shape. Though different tools may exist—bigger particle accelerators, say—the fundamental techniques of observation, hypothesis, experimentation, prediction and theory development will remain the same.

For my purposes, however, the distinction between ontological and methodological naturalism will not be relevant, and I will slip freely between the two. I am concerned with the role that privileging the scientific worldview plays in generating familiar philosophical difficulties. Whether the privileging of science takes an ontological or a methodological shape is neither here nor there.

The difficulties I have in mind begin when philosophers of a naturalistic bent try to align philosophy more closely with the natural sciences. The problems associated with naturalism manifest themselves where there is a tension between our ordinary, common-sense understanding of a

³ See, for example, the introduction to (De Caro & Macarthur, *Naturalism and Normativity*, 2010, p. 4)

phenomena on the one hand, and the understanding of the same phenomena provided by the natural sciences.

These tensions were expressed by Sellars as giving rise to a “clash” between the “manifest’ image of man-in-the-world” and the “scientific image”.⁴ The former image has persons as a central ontological category, while the latter adopts the ontology of the natural sciences. As Sellars’ characterisation of the manifest view suggests, it is when persons are considered that the clash begins to make itself evident. Many of the difficulties in contemporary philosophy are generated when we try to bring the framework that has persons at its centre under the auspices of the scientific framework. According the latter, persons are not unities that constitute basic ontological categories, but are decomposable without loss into more fundamental elements of the ontology of the natural sciences.

Sometimes, however, the clash extends further than persons and their properties. Ryle, for example, notes—

“When we are in a certain intellectual mood, we seem to find clashes between the things scientists tell us about our furniture, clothes and limbs, and the things that we tell about them.”⁵

I suspect that Sellars is still onto something when he puts human beings at the heart of the issue. As the Ryle quote suggests, the ways in which we speak about everyday objects that cannot be reconciled with the scientific viewpoint are *our* ways of speaking about them. To capture the generality of the clash, however, I will refer to the scientific view, and simply the manifest or common-sense view.

Five Ms

⁴ (Sellars W. , Philosophy and the Scientific Image of Man, 1963, p. 6)

⁵ (Ryle, 2015, p. 58)

Notable areas where these difficulties arise are the so called four Ms—meaning, morality, mathematics and modality. In each area, there exist common-sense facts or objects posited which are not obviously subject to scientific investigation. The question thus arises for the scientific-naturalist, how are such facts to be placed in the natural world (that is, a world defined by the natural sciences)?

Perhaps the most central folk belief about language is that words and sentences have meanings. There are, as it were, meaning facts—for example, “Grass is green” means that grass is green, or “Le chat est grand” means that the cat is big. Such facts, however, do not lend themselves to scientific investigation. One can certainly investigate language users, but meaning itself cannot be observed.

In the case of mathematics, there is a commitment to abstract entities such as numbers, functions and sets that exist outside space and time, and therefore appear recalcitrant to scientific investigation. Even in cases where the sciences posit objects on a theoretical basis, as Rutherford did with the neutron and Higgs did with the particle that bears his name, they are in principle able to investigate the world to discover whether or not the objects that they posit exist.

In the case of the Higgs boson and the neutron, such investigations yielded positive results. However, the negative case is also possible. The supposition of early-modern chemists that combustible materials contained a substance called phlogiston that was released during combustion was challenged by observational means. Some materials were observed to gain mass when burnt rather than losing mass as a result of departing phlogiston, and phlogiston was abandoned as a posit. It is difficult to see how such investigations might take place in the case of abstract entities such as numbers and sets. As non-spatiotemporal abstract objects, there is *ex hypothesi* nowhere to investigate.

There are also questions about the scientific respectability of mathematical facts of the form $12+54=66$. One could not, for example, show the statement to be false by counting out twelve blocks, separately counting out 54 blocks, and then combining the two sets of blocks and counting the resultant single set. Any procedure that did not result in the answer 66 would serve only to show that one had gone wrong in the counting, not that the statement is false. As a general rule, mathematical statements such as these cannot be subject to empirical investigation or revision. This calls their scientific respectability into question.

One might embark upon a mathematical proof to vindicate them, but the fact that one step in a proof follows from another is again not a matter for empirical investigation.

Modal facts present similar difficulties. Paradigmatically, the truth of modal claims comes with a commitment to the existence of possible worlds.

However, such possible worlds are causally isolated from the actual world, and are therefore not subject to scientific investigation. More fundamentally than this, the ambit of science appears to be restricted to how things are in the actual world.⁶ It does not concern itself with metaphysical necessity and possibility. Statements such as “Unicorns are possible” and “Bachelors are necessarily unmarried men” are not questions that the natural sciences will yield a verdict on. The status of modal facts in a world delineated by the natural sciences is therefore in doubt.

Finally, there are difficulties in reconciling with moral facts with the natural sciences. As indicated in relation to modal facts, the natural sciences are concerned with how the world is. Moral facts, however, like modal facts, are not simply concerned with how the world is, they are concerned with what ought to be the case, and whether what is actually the case is good, bad or neither. The natural sciences are silent on such issues. Perhaps there is a

⁶ This point is more fundamental insofar as it does not depend on a particular view about the content of modal claims. For example, one that parses them in terms of possible worlds.

question of what constitutes good or bad science that is internal to the sciences, but this has nothing to do with what is morally good.

One might also add a fifth M—the mental. Intentionality is notoriously difficult to reconcile with the natural sciences. One reason is that intentional states are states *that* such and such—the belief *that* David Cameron was the Prime Minister; the desire *that* Jeremy Corbyn be the Prime Minister; the expectation *that* Theresa May will remain the Prime Minister. Yet when the sciences look to investigate the human mind, the place they typically begin is the brain. However, it is unclear how the content of a *that* clause might be ‘read off’ somebody’s brain, or indeed any other part of their body.

Another difficulty is that the mental has been taken to involve normativity. First, in respect of the content of mental states. Suppose somebody believes that David Cameron was the Prime Minister. This is apparently a thought that only David Cameron having been Prime Minister could be in accord with. That is to say, whether or not David Cameron was ever Prime Minister, the belief in question is the belief that it is in virtue of its accordance with that state of affairs. Here, however, the notion of accord is a normative one, and as in the case of moral facts, the sciences do not make use of normative notions.

A second respect in which the mental is said to be shot through with normativity is traceable to Davidson. Davidson argued that the mental properties are constitutively normative insofar as their purpose is to make the actions and behaviour of sapient creatures intelligible from the standpoint of rationality. Davidson’s idea is that explanations that involve ascribing beliefs, desires and other propositional attitudes are explanations that show how a subject’s behaviour is in accordance with the demands of rationality (or deviates from them in intelligible ways). This sort of explanation—one in which things are made intelligible in terms of how things rationally ought to be—is to be contrasted with the sort of

explanation that is characteristic of the natural sciences—one in which things are made intelligible in terms of how things normally unfold.

Thus, these five areas—meaning, mathematics, morals, modality and minds—create difficulties for scientific-naturalists. For each there is a question raised about their place in the natural world. However, it should be noted that the five Ms do not exhaust the areas where naturalism creates difficulties for conventional wisdoms; they are simply the areas to which analytic philosophers have paid the most attention over the past century. Other areas that are apparently left out of a world delineated by the natural sciences might be thought to include aesthetics, literary criticism, economics, political science, geopolitics, and many more.

The tension between the common-sense world the world as described by the natural sciences that philosophical naturalism raises, then, is not simply confined to a few choice areas of philosophy. It is pervasive. There is, as Sellars put it a clash between the ‘manifest’ image of the world and the scientific image of the world.⁷

The space of possibilities

The difficulty that naturalism confronts us with, then, is that there appear to be more truths in the common-sense, manifest worldview than can be accommodated by the natural sciences. This begs the question of how these truths are to be placed in the natural world. Broadly speaking, there are three strategies that can be pursued.

The first option is reductionism. Reductionism in the context of naturalism involves giving an account of recalcitrant phenomena using conceptual resources that are at home in the natural sciences; for example, an account of the mental in terms of neurophysiology. Such an account would involve identifying mental facts with neurophysiological facts. The key reductionist claim would be that that neurophysical facts just are the mental facts—there

⁷ (Sellars W. , *Philosophy and the Scientific Image of Man*, 1963, p. 6)

is nothing more to the mental than the neurophysical. The placement problem is resolved by showing that the apparently recalcitrant facts actually turn out to be nothing more than straightforwardly acceptable scientific facts.

The second option is to bit the bullet. It acknowledges that that the common-sense manifest worldview does not slot easily into the world as described by the natural sciences, and responds by denying that the common-sense, manifest worldview is true. In response to the clash between the manifest image and the scientific image, its response is “More is the pity for the manifest image.” The second option thus reconciles recalcitrant areas by denying that their realms contain any facts at all.

Clearly, this neutralises the threat that areas such as the mental and morals pose to scientific-naturalism. However, it leaves the scientific-naturalist in the difficult position of having to explain away the apparently assertoric discourses that are built around the recalcitrant areas. When we ascribe mental states to our colleagues or issue moral pronouncements to errant youths, is it simply that we have fallen into an enormous collective error, though perhaps an error that has convenient and beneficial outputs? Or is the mistake here not one committed by language users, believing certain statements to be true that are not, but rather an error of theorists who have mistakenly taken moral discourse, say, to be in the business of stating truths. Such are the paths that biting the bullet forces.

The final option for dealing with the problem of placing recalcitrant phenomena in the natural world is expansionism. This option attempts to push back on the constraint imposed by scientific-naturalism. According to the expansionists, the placement problems are generated by the excessively parsimonious constraint on the natural adopted by scientific-naturalists. The placement issues can thus be resolved by making

There are clear difficulties in this approach. If the constraint is relaxed to excessively, the basic insight of naturalism—that explanations that invoke mysterious and occult processes are not admissible—is lost. This raises the question as to whether the constraint imposed by scientific-naturalism can legitimately be relaxed. A question that becomes more pressing the further that constraint is pushed. However, if the constraint is not relaxed sufficiently, it cannot will not allow the recalcitrant facts to be placed in the natural world.

The third option therefore, involves contesting the scientific-naturalist's conception of what is properly considered to be natural. For the scientific naturalist, the natural world is defined by the natural sciences, and given that the natural world is the only world that there is, the only facts are those enumerated by the natural sciences.

The expansionist view, however, has it that there are ineliminable facts that are perfectly natural, in the everyday understanding of the term 'natural', that cannot be reduced to those of the natural sciences. The natural world includes more facts than are enumerated by the natural sciences, but that does not render them queer or mysterious. The resultant view is a more liberal naturalism.⁸

There are two ways that the expansionist might attempt to push the boundary outwards. On the one hand, it could be understood as a question about what constitutes 'science'. An argument for expansionism that proceeded along these lines might look at enterprises that could be considered to be on the edges of the natural sciences, for example, the social sciences and the humanities, and argue for them to be accorded the same kind of legitimacy as the harder sciences.

⁸ The term 'liberal naturalism' is adopted in (De Caro & Macarthur, 2004) and (De Caro & Macarthur, 2010), but originates with John McDowell.

A second, more radical way of relaxing the constraint on the natural world imposed by scientific naturalists would be to challenge the use of the natural sciences as the tools by which the natural world is demarcated. According to this view, science is an important and valuable tool that can be used to investigate and discover facts about the natural world. It is not, however, all that there is to nature.

This could be mistaken for a merely definitional issue. At the outset of his book, *Philosophical Naturalism*, Papineau writes:

“What is philosophical "naturalism"? The term is a familiar one nowadays, but there is little consensus on its meaning. For some philosophers, the defining characteristic of naturalism is the affirmation of a continuity between philosophy and empirical science. For others the rejection of dualism is the crucial requirement. Yet others view an externalist approach to epistemology as the essence of naturalism.

“I shall not engage directly with this issue. It is essentially a terminological matter. The important question is which philosophical positions are right, not what to call them. I suspect that the main reason for the terminological unclarity is that nearly everybody nowadays wants to be a "naturalist", but the aspirants to the term nevertheless disagree widely on substantial questions of philosophical doctrine. The moral is that we should address the substantial philosophical issues first, and worry about the terminology afterwards. Once we have worked out which commitments ought to be upheld by philosophers who aspire to "naturalism", then we can agree to use the term accordingly.”⁹

⁹ (Papineau, 1993)

Papineau is surely correct that that nearly everybody wants to be called a naturalist. In the modern world, few are content for their theories to be included in the same camp as miracles and magic with respect to the natural world. However, Papineau is wrong to think this is an essentially terminological matter that can be sidestepped. The question is ultimately what sorts of facts and things are properly taken to be part of the natural world? Papineau wants to ignore this question, and look at the substantive philosophical theories of those who aspire to the term “naturalism”. However, the validity and the motivations behind the substantive theories that Papineau wants to concentrate on are not independent of what can be properly said to be part of the natural world. As McDowell puts it:

“It would be a cheat, a merely verbal manoeuvre, to object that naturalism about nature cannot be open to question. If we can rethink our conception of nature... we shall by the same token be rethinking our conception of what it takes for a position to be called ‘naturalism’.”¹⁰

The points at which the three views outlined above touch upon one another is interesting. For instance, though expansionists and bullet biters might appear to be at opposite extremes they are in agreement on a crucial point—a restrictive naturalism based on the hard sciences leaves no place in the world for folk psychological concepts.

Quine and McDowell, for example, are at opposite ends of the spectrum of how parsimonious the philosophers should be on naturalistic grounds. On the one hand, for Quine, the natural world is the world demarcated by the hard sciences. He famously says, “Naturalistic philosophy is continuous with natural science... My naturalism has evidently been boiling down to the claim that in our pursuit of truth about the world we cannot do better than our traditional scientific procedure, the hypothetico-deductive method.”¹¹ On the other hand, McDowell In his book *Mind and World*, argues that we

¹⁰ (McDowell, 1996, p. 77)

¹¹ (Quine, *Naturalism; or, living within ones means*, 2004, p. 281)

should “rethink our conception of nature” to make room for a *sui generis* domain of normative facts and eschews what he calls “bald naturalism”, which tries to identify the natural world with the realm of natural laws demarcated by the sciences.¹²

Both agree, however, that assuming a restrictive naturalism based on the hard sciences, there would be no place in the world for folk psychological concepts. This pushes Quine and McDowell down opposing routes. For Quine, it is a broadly eliminativist route; for example, in *Word and Object*, where he suggests without an attempt at a reduction replacing the vocabulary of mental states with the vocabulary of physical correlates, or in *Epistemology Naturalised* where he advocates supplanting traditional epistemology with psychology. McDowell, on the other hand, takes the incompatibility of folk psychology and a restrictive naturalism as a motivation for an expansionist line of thought, which is a central theme of his *Mind and World*.

This divergence, however, stems from a fundamental agreement on the impossibility of reconciling the scientific worldview with the common-sense worldview. It is at this point that supporters of reductionism would clash with McDowell and Quine. They are in conformity with Quine and disagreement with McDowell, insofar as they subscribe to a restrictive naturalism based on the hard sciences. However, they are in disagreement with both Quine and McDowell insofar as they hold that a restrictive naturalism can embrace folk psychological concepts on the ground that the facts of folk psychology are ultimately reducible to the facts of the hard sciences.

Such disputes show that the question of how high to set the bar for a theory to count as naturalistic is not a merely definitional question—the considerations that inform the correct answer are substantive. They are

¹² (McDowell, 1996, p. 77)

capable of driving theorists in different directions, and limit or de-limit the space of possibilities in various ways. Surely this is not simply to attain a label.

My Strategy

In this thesis, I will argue that Scientific-Naturalism cannot give an adequate account of meaning, understanding and the mental. Further, I claim that this should not drive us towards a more modest account of the world that either excludes these phenomena, or gives an account of them as something less than they are. Instead, we should seek an account that still deserves to be called naturalistic, but is inclusive enough to allow us to retain our intuitive understanding of mind, language and the other recalcitrant areas referred to above. In other words, I will be adopting the expansionist approach, outlined in the previous section, to reconciling naturalism with the common-sense, everyday truths of the manifest image.

In rejecting scientific-naturalism, the liberal-naturalism that the expansionist approach yields does not seek to defend the supernatural or the occult. Like scientific-naturalism, it denies the existence of such entities and phenomena as gods, ghosts, ghouls and magic. Nor is it unscientific, insofar as it does not contradict the propositions of the most current science, homeopathy or intelligent design, or deny that science is a legitimate and indeed essential form of inquiry.¹³ Instead, Liberal-Naturalism denies the claim that science has a monopoly over legitimate explanations of reality; a claim that is arrived at through philosophy rather than science.¹⁴ Thus, Liberal-Naturalism stands opposed not to the sciences, but to scientism—a dogmatic belief in the universal authority of the natural sciences to the exclusion of all other bodies of knowledge and methods of inquiry.

¹³ It must be remembered that scientific-naturalism as a thesis about the nature of nature is not itself in the cannon of the sciences. It is a distinctively philosophical thesis.

¹⁴ See (Bilgrami, 2010, p. 29) on this point.

In this first chapter of the thesis, I have outlined the tension that exists between the world as described by the natural sciences and the world as understood according to the common-sense, manifest picture, and the difficulties that this tension generates when combined with scientific naturalism. I have also outlined the three strategies available to resolve the tension—reductionism, biting the bullet, and my preferred solution, expansionism—and mapped out some of the connections between them.

My argument for expansionism is two pronged. First, I will attempt to undermine the two alternatives. In Chapter 2, I argue that facts about meaning and mental content cannot be reduced to scientific concepts. In Chapter 3, I argue against the idea that these phenomena can simply be left out of our world picture. The upshot is that neither reductionism or biting the bullet can succeed in relieving the tension between the common-sense picture and the scientific picture.

After showing that reductionism and biting the bullet are viable possibilities, it might be thought that expansionism is the unproblematic default choice. However, this would be mistaken. The tension between the scientific picture and the common-sense picture is created only when the two are combined with scientific-naturalism. That folk psychology is recalcitrant to subsumption under the natural sciences would not be a problem unless one thought that the natural world was demarcated by the natural sciences.

Thus, in order to clear the way for expansionism, it is necessary to question the idea that the natural world is demarcated by the natural sciences. This is the second prong of my argument for expansionism. It amounts to the reimagining of nature that McDowell's comments above envisage, and questioning what the appropriate basis of naturalism is. In Chapter 4, I look at the motivations that underpin scientific-naturalism, and I attempt to undercut them, thereby opening the possibility of an expansionist resolution to the tension between the common-sense and scientific pictures of the world.

Finally, in Chapter 5, I examine the naturalist credentials of the liberal-naturalism produced by the expansionist approach, and ask just what earns it the right to be called a form of naturalism. I also address some possible challenges to these credentials.

Before moving on to the task at hand, however, I want to address a question that might be raised about my strategy.

It is more common for discussions of naturalism to take place when embedded within a field of philosophy where it is a live issue—meta-ethics or the philosophy of mind for example.¹⁵ Thus far, and in the chapters that follow, I have been considering naturalism *tout court*. However, it might be asked whether there is a single thesis or theory that is operative in each of these fields that might be dubbed “naturalism” or “scientific-naturalism”. Certainly, it is rarely stated in explicit form. Perhaps naturalism when considered in ethics, mind, and mathematics cannot be unified into a single, univocal concept.

I think this view is mistaken. Certainly it is an accurate observation that some form of naturalism is very rarely stated explicitly as premise or a thesis in the views in which it is operative. However, this does not mean that it is not lurking in the background to much philosophical theorising. It is my contention that the central motivation for favouring reductive, eliminativist, fictionalist and expressivist views in a range of areas of philosophy is and overly scientific attitude that involves holding the natural sciences to be the only game in town. As a result, a general approach to the question of naturalism can shed light in all areas where this attitude is possible.

¹⁵ Even McDowell’s *Mind and World*, which might be argued to have spurred interest in naturalism as such, is contextualised to a particular problem of how to locate experience as a transaction in nature. Notable exceptions to this include (De Caro & Macarthur, 2010), (De Caro & Macarthur, 2004) and (Price, 2011).

Chapter 2 – Reductionism

The first strategy that a scientific-naturalist might take to domesticate the common-sense, manifest view is reductionism. According to reductionism, some entity or fact x is reducible to y just in case x can be shown to be constituted by, or at least fully explained by, y without remainder.

Strictly speaking, reductionism itself is ontologically neutral with respect to its chosen reduction base. However, in the context of scientific naturalism, the only legitimate reduction base there could be are the facts and entities posited by the natural sciences. According to this form of reductionism, then, the seemingly recalcitrant facts and entities put forward by the common-sense manifest world-view are in fact constituted by facts and entities that are already at home in the scientific world-view.

Reductionism, therefore, reconciles the common-sense picture with the scientific picture by showing that they are one and the same. The parts of the common-sense picture that seemed out of sync with the scientific world-view are, upon closer inspection, just plain old scientific facts after all. Resolving the clash, for the reductionist, is a matter of pairing up the recalcitrant bits of the common-sense framework with candidates in the scientific world view that show promise as potential constitutors. Such pairings might include, mental facts and neurophysical facts; epistemology and psychology; meaning facts and facts about behavioural inputs and outputs; moral properties and the natural properties that occur in situations that demand moral judgements.

By showing that the recalcitrant facts can be fully explained in terms of the scientific facts, or even better, constituted by them, reductionism can thereby retain the parsimonious ontology and metaphysics of scientific naturalism, without forcing us to give up the common-sense picture of the world. The common-sense picture just turns out to be subsumable by the scientific picture. If, for example, we succeed in reducing mental states to brain states, that part of the common sense picture will figure in the world

as described by the natural sciences—thoughts would be part of the world, specifically as part of people's brains.

Clearly, however, it is not simply good enough to pair up areas of the common-sense framework and the scientific framework. Otherwise the apparent clash between the manifest image and the scientific image would simply not arise. There is work to be done to demonstrate that the candidates for reduction are genuinely reducible to the proffered reduction base.

An example of a reduction that appears to have been carried through successfully is that of heat to molecular motion. We can explain how it is molecular motion that produces the sensation of heat when it comes into contact with our nervous system, we can explain how molecular motion causes the mercury in a thermometer to rise and we can explain how molecular motion can be transferred from a hot object to a cool object in terms of the 'excitement' of the molecules that comprise the latter. In short, the causal roles that were associated with heat, even before it became apparent that heat is just molecular motion, can be fully explained in terms of molecular motion, with nothing crucial left out.

Thus, in order for a successful reduction of certain elements of the common-sense picture to be achieved, it would be necessary to show that all of their functions and workings can be explained in terms of something contained within the reduction base available to the scientific naturalist. Any attempted reduction of the mental, for example, would at the very least have to consider the causal roles that beliefs have—the actions that they contribute to, the further beliefs they engender, the emotions they produce, etc.—and explain such behaviour in terms of some class of scientifically respectable item.

The reduction would be further complicated by the fact that not all the functions of belief appear to be merely causal—beliefs can stand as reasons

for other beliefs. Thus, a reduction of the mental to the physical would also have to include within its ambit the role that beliefs play in rational explanations as well as the roles they play in causal explanations.

My strategy for dealing with reductionism will not try to critique every attempted reduction of the recalcitrant to the scientific that philosophy to date has offered up. To do so would take a lifetime (perhaps this is evidence that the project is destined to be fruitless). Instead, I will focus on two areas where reductionism has been common place—the mental and meaning and understanding. I will run through some of the flaws with the reductionist strategies in these areas and ultimately argue that no such reduction is possible in these two areas.

Showing that the mental and linguistic meaning are irreducible to the natural sciences would, on its own, constitute an argument that reductionism cannot work as a strategy to demonstrate that reductionism could not reconcile the clash between the common-sense, manifest view and the scientific picture. The two areas are too fundamental to the common-sense picture to be left out of the world.

Simply ending matters on the irreducibility of the mental and meaning could, however, leave open the possibility of a dual strategy of reconciling the common-sense, manifest view with the scientific picture. Such a strategy might attempt a reductionist resolution of certain parts of the common-sense world-view, i.e. those parts of it that do not concern mental and meaning facts, and then attempt to reconcile what is left over (minds and meaning) with the scientific picture of the world by other means.

I have already said what such other means might be in the previous chapter, and in the next chapter, I will attempt to close down these alternative means. This should be sufficient to render any attempt at a dual strategy fruitless. However, I will also say something in this chapter about difficulties that afflict reductionist accounts more generally.

The Irreducibility of Meaning

Linguistic meaning and understanding are often taken to pose a problem for scientific-naturalism. It might be thought that insofar as language is manifested in the physical behaviour of human beings, it would be an ideal candidate for scientific reduction with behavioural responses and physical inputs as putative candidates within for the reduction base.

This is essentially what Quine attempts to achieve in his stimulus-meaning theory. According to the theory, meaning-facts are not mysterious facts recalcitrant to scientific treatment, they are simply facts about the behavioural dispositions of speakers. Quine introduces the idea by considering how a monoglot anthropologist might approach the language of an alien culture.

Simply, through observation Quine notes, the “radical translator” can adduce a translation of the alien language.¹⁶ To do this, the translator matches up environmental stimuli with linguistic behaviour, noting, as in Quine’s example, that “Gavagai!” is uttered in the presence of rabbits, and only in the presence of rabbits. For a subject mean there is a rabbit by “Gavagai!” is simply for the subject to be disposed to utter or assent to “Gavagai!” when a rabbit stimulus comes into contact with the speaker.¹⁷ Quine summarises his view:

“The stimulus meaning of a sentence for a subject sums up his dispositions to assent to or to dissent from the sentence in response to present stimulation.”¹⁸

¹⁶ Chapter 2 of (Quine, 2013)

¹⁷ A ‘rabbit stimulus’ need not be an actual rabbit, but could equally be retinal patterns of light or neural stimulation of the same type as rabbits engender applied directly to a speaker’s body, i.e. without the presence of an actual rabbit.

¹⁸ (Quine, 2013, p. 30)

According to Quine's stimulus-theory of meaning, then, there is nothing more to facts about linguistic meaning than the subject's dispositions in response to physical stimuli.¹⁹ On the face of it, such a view does not postulate any queer ontology and seems perfectly open to scientific investigation, and is thus perfectly congenial to scientific naturalism.

However, as Quine notes, when meaning is put on this scientific footing, the meaning-facts that form part of the common-sense picture appear to be radically under-determined by the scientific facts. Consider, for example, that we are asked to decide if "Gavagai!" means "there is a rabbit", "there is an undetached rabbit part" or "there is a temporal rabbit stage". The observable stimuli and the dispositional responses are consistent with each of the three meanings. The data available to the radical translator is not sufficient to pick out one meaning from the multitude of possible options.

At issue here is that meaning is constituted not simply by use, but *correct use*. Approaching language use in a scientific spirit, as Quine's radical translator does, limits the possible data to how language is actually used—the actual stimuli and the actual responses elicited. However, actual use is not sufficient to determine one meaning from many possible options. In order to underpin the meaning facts, we need to appeal to something stronger than what stimuli actually elicit the words of a speaker. We need instead to know what it is that makes a speaker's utterances correctly uttered—is it rabbits, or undetached rabbit parts.

¹⁹ As a matter of Quine exegesis, it might be debated whether Quine is a reductionist or an eliminativist about meaning. Quine himself is slippery on this issue. Consider the following passage:

"[S]timulus meaning as defined falls short in various ways of one's intuitive demands on "meaning" as undefined... Yet stimulus meaning, by whatever name, may be properly looked upon still as the objective reality that the linguist has to probe when he undertakes radical translation... We do best to revise not the notion of stimulus meaning, but only what we represent the linguist as doing with stimulus meanings." (Quine, 2013, p. 35)

For my purposes, however, it is possible to take it as given that the relation of stimulus meaning to common-sense meaning is reductive.

This is the insight that meaning and understanding are, in some sense, normative. The point is more basic than simply as a means to overcome Quine's inscrutability of reference. When somebody understands the meaning of a word, she is obliged to use it in a particular way – her linguistic behaviour must accord with her understanding. For example, for somebody who correctly understands the word "green", her understanding is something that must accord with descriptive applications of the word to things that are actually green. This is just what it is to understand 'Green'. Where it was found that somebody frequently used 'green' differently, we would call into question either her eyesight, or her understanding.

Thus, understanding a word, and using it meaningfully, commits one to a certain pattern of use. Without such a normative constraint, it is difficult to see how an utterance could be meaningful at all.

Clearly, this creates difficulties for scientific naturalism. Normative facts do not feature within the conceptual repertoire of the natural sciences, and therefore, for a scientific-naturalist, they cannot be part of a true account of meaning and understanding. The normativity of meaning, however, requires that they must be. A common strategy for scientific naturalism is to attempt to introduce the normative constraint in a way that appeals only to the resources available to the natural sciences, in effect reducing the normative constraint to a more naturalistic phenomenon.

Crispin Wright's Wittgenstein offers a representative example of such a strategy. Motivated by scientific-naturalism Wright's Wittgenstein recoils from the idea that understanding might consist in a sensitivity to norms that demand a word be used in a particular way, on the grounds that this view implies a picture in which one's understanding of a word mysteriously prejudices an infinity of potential cases as correct or incorrect applications of the word.

Consider, for example, the instruction “add 2”. On an ordinary understanding, whether or not any given step in the series is in accord with the original instruction is determined in advance by the meaning of the instructor’s words. However, the question might be raised, in virtue of which natural facts could such a determination be performed. Given that there is an infinity of numbers in the series, nothing about the instructors past behaviour could show yet to be encountered steps to be in accord with the original instruction.

At this point, the scientific-naturalist might appeal to the instructor’s depositions to assent to the various steps in the series. The difficulty here is that there are some numbers that are simply too large for any human to consider, calculate and assent to them. Given that we take the meaning of “add 2” to settle the question for every point in the series, even those stages we cannot compute, the dispositional facts seem to be ruled out. Nor is it clear how an appeal to the dispositional facts could make room for error on the part of the instructor.

Restricted to the sorts of facts allowed by the natural sciences, nothing seems available to determine whether all of the steps in the series “add 2” are in accord with the original instruction. Wittgenstein himself gives voice to the sense of puzzlement:

“Whence this determining of what is not yet there? This despotic demand?”²⁰

The only way to preserve our ordinary conception of meaning appears to be to extend the range of admissible facts beyond those countenanced by the natural sciences. Clearly, however, this path cannot be left open to the scientific-naturalist.

²⁰ Section 437 of (Wittgenstein, *Philosophical Investigations*, 2010)

Instead of what the scientific-naturalist would regard as a mysterious Platonism, Wright's Wittgenstein holds that we should think of understanding a word in terms of "certain subrational propensities towards conformity of response, towards going on in the same way."²¹ In other words, when somebody is taught to use a word, she is brought to use it in approximately the same way as her tutor, and those who share the tutor's language, through something like conditioning.

This part of explanation accounts for a certain mystery. Namely, how is that, perhaps with some teaching, people can go on to use their words in the same way as each other when they encounter new and novel contexts for their application. The Platonist might explain how two speakers agree in their response when confronted with a previously unencountered green item in terms of their mutual grasp of meaning-facts about "green"; for example, knowledge about what "green" means in English. Wright, however, appeals instead to a tendency of human beings to "go on" in the same way as each other; in this case, that is, a tendency to classify the same things together, and adopt equivalent standards of sameness, at least when it comes to colour.

However, thus far, the normative element is still missing. Without it in the picture we do not have a picture of meaning and understanding, only conformity of response. Wright's method of introducing a normative element is by adopting a communal constructivism about meaning.²²

Constructivism steps in as an attempt to give us something more than mere conformity by providing the normative constraint we began with. Constructivism holds that rather than particular applications of a word being correct or incorrect in advance of their occurrence, in virtue of what the word means, whether a person's application of a word is correct or incorrect in any given case is determined by the verdict of her community.

²¹ (Wright, 2001, p. 124)

²² For examples, (Kripke, 1982) and (Wright, 2001)

To march in step is to be correct, while to march out of step is to be incorrect. Thus, the possibility of a gap between the individual and her community steps into the void left by the expulsion of unscientific norms from the world, and opens up the possibility of being in error, with error understood as being out of sync with the community.

However, it might reasonably be asked if communal agreement is really sufficient to provide the sort of normativity that legitimate accounts of meaning require. While the community steps in to provide the space for error at an individual level, there is no standard over and above the verdicts of the community. When it comes to applying determining the correctness of an application of a word in a new case, anything the community says, goes. This amounts to little more than making up meaning as we go along.

Consider, for example, the *grue*-predicate envisaged by Nelson Goodman. An object is *grue* if and only if it is observed before *t* and is green, or else is not so observed and is blue. Suppose somebody questioned whether in a given community “green” meant green, or it meant *Grue*. According to the constructivist, there would be no fact of the matter either way until we actually arrived at *t* and the community delivered its verdict.

It seems clear from such cases that, although appealing to the community might enable us to make sense of individual error in way that dispositionalism does not, it does no better at extending correctness conditions to new and unconsidered cases. Without this, the idea that there is a fact of the matter about whether a word means one thing rather than another is lost, and with it, the idea that words can genuinely mean anything at all.

John McDowell has spoken of a natural understanding of meaning, in which it is correct to think of it in “contractual terms”:

“Our idea is that to learn the meaning of a word is to acquire an understanding that obliges us subsequently—if we have occasion to deploy the concept in question—to judge and speak in certain determinate ways, on pain of failure to obey the dictates of the meaning we have grasped; that we are 'committed to certain patterns of linguistic usage by the meanings we attach to expressions'”²³

This seems correct as an account meaning as it figures in the common-sense framework. However, it depends on the existence of meaning-constituting norms that determine correctness conditions for previously unencountered cases. Thus, in order to domesticate this part of the common-sense manifest picture to the world as described by the sciences, it is necessary to also domesticate norms. This would be to overcome the naturalistic fallacy, and seems like an impossible task. Reductive attempts to do this in the philosophy of language through appeals to the dispositions of speakers and community do not succeed.

The Irreducibility of the Mental

Another central area of the common-sense, manifest view of the world that has been taken to involve normativity is the mental. Indeed, the same considerations that apply to linguistic meaning should also apply to intentionality in general. Intentional mental states are, after all, things with which only certain states of affairs will accord—an expectation that such and such will happen, is essentially something that can only be satisfied by such and such; the wish that things are thus and so would not be the wish that it is if it were not something that could only be satisfied by things turning out thus and so.

The latter example of a wish brings out the sense in which its ‘satisfaction’ is a thoroughly normative issue. One early account of the content of intentional states that was motivated by scientific-naturalism appeals to

²³ (McDowell, 1984, p. 325)

causation.²⁴ For example, Russell outlined a view according to which whatever causes a wish to go away is to be identified with its content:

“A hungry animal is restless until it finds food; then it becomes quiescent. The thing which will bring a restless condition to an end is said to be what is desired. But only experience can show what will have this sedative effect, and it is easy to make mistakes. We feel dissatisfaction, and think that such-and-such a thing would remove it; but in thinking this, we are theorizing, not observing a patent fact. Our theorizing is often mistaken, and when it is mistaken there is a difference between what we think we desire and what in fact will bring satisfaction.”²⁵

Thus, according to Russell’s theory, what makes my wish a wish specifically for food, is that only food can cause the wish to go away.

The flaw with the view, however, is noted by Wittgenstein when he draws out the logical implications of Russell’s view:

“If I wanted to eat an apple, and someone punched me in the stomach, taking away my appetite, then it was this punch that I originally wanted.”²⁶

Now, Russell’s theory could be saved if we were willing to abandon the idea that the content of a subject’s own beliefs is transparent to her. Indeed, Russell appears to advocate such a view in arguing that only experience can show what our wishes and desires are desires for. “Theorising”, as he puts it, is subject to error.

²⁴ For example, (Ogden & Richards, 1923) and (Russell, 1921). That scientific-naturalism is such an enduring theme in philosophy is evidenced by the fact that the view, in more sophisticated forms, is still present today, in the work of Fodor for example.

²⁵ (Russell, 1921, p. 32)

²⁶ Section 22 of (Wittgenstein, 1975)

The idea, however, that somebody might mistakenly think himself hungry only to discover that all he wanted was a punch in the stomach is sufficiently ridiculous to show that this strategy cannot work. Nor does Russell's theory give a satisfactory account of beliefs. Suppose, as Proust does in *In Search of Lost Time*, that the taste of a madeleine was to cause me to entertain or recall beliefs that at least purported to be about a long forgotten aunt. The Russellian view appears to be committed to the questionable notion that I am mistaken in thinking that my beliefs are about my aunt, and in fact, they are about madeleines.

What is evident from these considerations is that causal connections do not provide a sufficiently strong connection between the content of intentional mental states and the states of affairs that would accord with them to explain intentional content. Although a punch in the stomach might remove the wish to eat, it does not accord with the wish to eat in the same that having a meal would have done. The notion of accord or satisfaction in play here is a normative one. As we saw in the preceding section, however, normative notions create difficulties for scientific naturalism.

In the course of the rule-following passages, Wittgenstein considers the view that intentional mental states are not intrinsically normative, in the sense that they sort out those states of affairs with which they accord and those which they do not. According to the view, it is only in virtue of supplying one of any number of possible 'interpretations' to the mental state that it can be said to be in accordance with a state of affairs. Such a view holds the obvious attraction to the scientific naturalist of removing the difficult normative characteristics

As Wittgenstein points out, however, such a view can lead to a regress. If the supplied interpretation that is supposed to divide possible states of affairs into those that are in accord with the mental state and those that are not is itself normatively inert, then it cannot perform the task required of it. The interpretation, Wittgenstein suggests, would itself stand in need of an

interpretation if it is to perform the task required of it. As Wittgenstein puts it, “any interpretation still hangs in the air along with what it interprets, and cannot give it any support. Interpretations by themselves do not determine meaning.”²⁷

In a discussion of the rule following passages, McDowell considers what a view according to which it is denied that the mental is essentially normative implies for an ordinary case of belief:

“Suppose I am struck by the thought that people are talking about me in the next room. The hypothesis implies that only a state of affairs in which *people are talking about me in the next room* would be in accord with my thought. Now [the thesis that mental states are normatively inert] implies that whatever I have in my mind on this occasion, it cannot be something to whose very identity that normative link to the objective world is essential. It is at most something that *can* be interpreted in a way that introduces that normative link, although it can also be interpreted differently. (‘I am free in the future to interpret it in different ways.’) Considered in itself it has no relations of accord or conflict to matters outside my mind, but just ‘stands there’. The regress of interpretations will then preclude conceiving the thought, considered as something to whose identity it is essential that it is to the effect *that people are talking about me in the next room*, as something *I* have in my mind at all. What I have in my mind is at most a potential vehicle for the significance in question, in the sort of way in which a sentence, considered as a phonetic or inscriptional item, is a vehicle for a significance that it can be interpreted as bearing.”²⁸

It seems, then, that intentional content cannot be accounted for unless it is granted that intentional mental states are essentially normative. At best, if

²⁷ Section 198 of (Wittgenstein, 2010)

²⁸ (McDowell, 1992, p. 46)

intentional mental states are to be conceived as normatively inert, as they must be according to scientific-naturalism, intentional mental content disappears from the picture altogether. At best, mental states could only ever be potential vehicles for intentional content.

In addition to applying the core thought of the preceding section to intentional content, however, there are also independent reasons for thinking that scientific-naturalism cannot accommodate the mental within its worldview.

The simplest and most satisfying approach for the scientific-naturalist to naturalize the mental is a straightforward reduction to properties and events that are unproblematically scientific. The prime candidate to constitute the reduction base, here, is neurophysiology.

However, Hornsby has made a powerful argument against the possibility of this.²⁹ The argument goes like this. Imagine we have complete knowledge of the neurophysiology of a person, *S*. Suppose, then, that *S* performs an action, say raising her arm. According to the assumptions of the thought experiment, we know all of the neurophysiological events involved in the aetiology of *S*'s action. Now, suppose we were to ask, which neurological event can be identified with the mental event caused *S* to raise her arm?

Hornsby plausibly claims that there are no plausible candidates amongst the neurophysiological events that lead to *S*'s raising her arm that we could naturally pick out as the mental event that caused the action. The problem is that the question 'Which neurophysiological events are the mental events?' involves a jump from the macro-level at which we ascribe mental properties to *S*, to the micro-level of neurophysiology. Neurophysiology discriminates events far more finely than folk psychology, and as a result there is no principled way to distinguish between those neurophysiological events that

²⁹ (Hornsby, 1997)

constitute mental events and those which are merely its proximate causes and effects.

Perhaps, it might be suggested, we could concatenate a set of neurophysical events that occupied the same spatio-temporal dimensions that a mental state responsible for *S*'s action might plausibly be thought to occupy. The difficulty with this, however, is that there is no obvious, non-arbitrary basis available to the scientific naturalist according to which *S*'s neurophysical events could be combined to form a new event. Clearly, a reductive account could not appeal to the spatio-temporal dimensions occupied by the *S*'s mental states as a principle on which to combine events as this would be circular.

Only if were possible, in principle, for events to be concatenated wholly arbitrarily to form new events—what Hornsby calls the mereological conception of events—would the right kind of neurophysical event be available. It is dubious, however, that such a permissive conception of events is possible. For example, the event formed by combining Caesar's crossing the Rubicon and Britain voting to leave the European Union seems highly artificial. It is not the sort of event that could provide any explanatory value.

Similarly, a concatenation of neurophysical events that occupied the same spatio-temporal dimensions as a mental state that caused the raising of an arm might plausibly be thought to occupy would surely not be of the right sort to pull its weight in neurophysical explanations. Yet, it is a neurophysical explanation of the mental that such a reductive account is supposed to yield. According to Hornsby, when we do neurophysiology, "We examine events at a degree of resolution that we never need to achieve in order to make sense of one another."³⁰

³⁰ (Hornsby, 1997, p. 68)

Although Hornsby's argument is directed at Davidson's claim that every mental event is token identical with a physical event, it touches upon a claim made by Davidson in his argument for the irreducibility of the mental to physical laws. Davidson writes:

“When we use the concepts of belief, desire, and the rest, we must stand prepared, as the evidence accumulates, to adjust our theory in the light of considerations of overall cogency: the constitutive ideal of rationality partly controls each phase in the evolution of what must be an evolving theory.”³¹

This idea that rationality plays the role of a constitutive ideal when it comes to the mental is the idea that the purpose of ascribing propositional attitudes to a creature is to make that creature's behaviour intelligible in light of considerations about what it ought to do from the point of view of rationality.

Neurophysiology, on the other hand, attempts to make sense of events in by placing them in a context of how things usually unfold—that is, in the context of law like regularity. Indeed, it would be impossible for a neurophysiological account to even begin making a person intelligible in the way that folk psychology does. Relations such as consistency, coherence and being reasonable in light of are relations that only hold between items with propositional contents, such as beliefs, desires and intentions. The conceptual repertoire of neurophysiology, however, is blood, bone and grey matter, and it is difficult to see how one neural event might make another reasonable, rather than merely causing it. For this reason, it is unsurprising that the events of neurophysiology do not simply map onto the events we are concerned with when we attempt to make sense of each other using psychological concepts. As Davidson puts it, the considerations we bring to

³¹ (Davidson, 2001a, p. 223)

bear when ascribing propositional attitudes have “no echo in physical theory”.³²

The Explanatory Gap

In the preceding two sections, I have argued that meaning and intentionality are irreducible to the conceptual apparatus of the natural sciences. In both cases, it is the normativity associated with both concepts that causes difficulties. I now want to end this chapter by saying something more general about reductive strategies in respect of normative phenomena.

Statements like “Heat is molecular motion” are explanatory because our knowledge of physics and chemistry makes it intelligible how something like molecular motion could make the mercury in thermometers to expand, hot gasses to rise and cold gasses to sink. Once we understand the mechanism by which these things are produced, there is nothing left unexplained that the reductive theory must explain.

Things are different, however, in the case of neurophysical events and beliefs. It might be thought that, at least from a broad schematic, point of view, identifying neurophysical events with beliefs opens a route to explaining how beliefs cause actions. There is, after all, a causal chain of events between an arm’s going up and the brain. Similarly, all modes of perception that culminate in empirical beliefs involve causal links between events in the external world and events in the brain.

However, a substantial parts of the common sense story remain unexplained on such a reductive account. Those elements are the normative parts of the story. How, for example, could experience justify an empirical belief on a reductive account rather than merely cause it? Similarly, how could a belief justify another belief rather than merely cause it? When reductive accounts of normative phenomena are proposed, an explanatory gap emerges in a way that it does not for phenomena such as heat.

³² (Davidson, 2001b, p. 231)

This sort of explanatory gap was first noted by Levine in respect of qualia and their phenomenal properties. Suppose it is proposed that pain is reducible to the firing of C-fibres. Although there is a causal link between the pricking of somebody's skin with a needle and the excitement of her C-fibres, there is no obvious connection between the firing of C-fibres and how pain feels that would enable the firing of C-fibres to explain why pain feels as it does. It could be asked why the firing of A-fibres or B-fibres does not feel the same, and no explanation in neurophysiological terms would be forthcoming.³³

Levine suggests that one way of dealing with the explanatory gap would be to admit recalcitrant phenomena such as qualia and normativity into our world-view as "brute facts". That is to say, they simply have to be taken as given and admit of no explanation in more fundamental terms.

For the scientific-naturalist, it is in principle possible to make such a move. For example, it might have turned out that the most fundamental level of explanation at the atomic level was in terms of neutrons and protons without compromising scientific-naturalism. As it happens, however, it was discovered that there is a more fundamental level of explanation, whereby the behaviour of protons and neutrons could itself be explained in terms of the properties of quarks. The point is that both sets of facts could have been accepted as fundamental without compromising scientific-naturalism—neutrons and protons would have been allowable as brute facts had it turned out that there was no such thing as a quark.

However, this does not seem possible for the case of normative phenomena. Levine notes that in order to determine when there is an explanatory gap and when there is not, it is necessary to have a theoretical account of what it is for a phenomenon to be rendered intelligible without the need for further

³³ (Levine, 1983)

explanation. It would tell us what sort of things we are allowed to accept as bedrock without providing further explanations, and what sorts of things require further explanation.

It should be clear that scientific-naturalism is an attempt at such a theoretical account. According to scientific-naturalism, explanations given in terms of the natural sciences may serve as bedrock, but where a phenomenon has not been explained in terms of the natural sciences, further explanation is required. Explanations may reasonably come to an end as long as we are in the domain of the natural sciences, even though one scientific account of the world may be explained in terms of another, more fundamental scientific theory.

It seems clear that normativity considered as such is not a concept that is at home in the domain of the natural sciences. Therefore, on scientific naturalism's theoretical account of when further explanation is required, normative phenomena will always produce an explanatory gap that must be filled. Facts that involve normativity cannot be accepted as brute facts, without further explanation in scientific terms.

The normative phenomena that form part of the common-sense, manifest picture include at least ethical, and as I have argued above, mental and meaning facts. Mathematics can also be plausibly included. Now, if a reductive strategy of reconciling the common-sense and the scientific image is to be pursued, what is required is a reduction of the normative to the non-normative. This, however, seems to be an impossible task.

It might be objected, here, in a scientific spirit, that it is not possible to judge from the armchair whether or not such a task is impossible. Although, an account of normative features of the recalcitrant parts of the common-sense framework may well seem impossible now, who are we to say what will seem possible or impossible in the light of a future science?

Such an attitude would, I think be mistaken. The sorts of explanations at which the sciences excel really do seem to be of a fundamentally different kind than the sorts of explanations that normative phenomena permit. The natural sciences place events in the context of how things normally unfold in accordance with natural laws, while normative phenomena place events in the context of right and wrong. Accepting the naturalistic fallacy seems like too high a price to pay to hang on to a reductive scientific-naturalism.

Conclusion

I have argued that reductive strategies to reconcile the common-sense picture with the scientific picture of the world do not succeed. In particular, the normative aspects of facts about meaning and intentionality render them unsuitable for scientific reduction. I have further argued that any part of the common-sense framework that involves normativity—which includes at least, meaning, minds, morals and mathematics—will create an unbridgeable explanatory gap for a reductive scientific naturalism.

At the end of his article on the explanatory gap, Levine concludes that the only way to circumvent the explanatory gap is to take a more “eliminationist line” to the recalcitrant phenomena. I consider such approaches in the next chapter.

Chapter 3 – Biting the Bullet: Eliminativism, Fictionalism and Expressivism

In the previous chapter, we saw that reductionism does not offer the scientific-naturalist a way of reconciling the common-sense, manifest picture of reality with the scientific picture. Faced with the irreducibility of a phenomenon, scientific-naturalism has another option. It can simply accept that some parts of the common-sense picture really are just irreconcilable with the scientific picture and bite the bullet. If meaning and mental facts cannot be stated in the vocabularies of the natural sciences, then so much the worse for meaning and mind.

Rather than reverting to a pre-theoretical worldview, the irreducibility of phenomena to the natural sciences forces the scientific-naturalism to purge the world of the recalcitrant phenomena. On this view, of mental properties, meanings and any other properties that are not reducible to the sciences are simply not part of the furniture of reality. Below, I will address three forms that such a purging of reality can take: eliminativism, fictionalism and expressivism.

Eliminativism

The first means of purging reality of recalcitrant facts and properties is eliminativism. According to eliminativism, statements that belong to the fields that cannot be reduced to the natural sciences are simply false. Although folk linguistics and folk psychology suppose that there are such things as meaning facts and mental facts, the theories of the folk are not as advanced as those of the scientist. Just as early theories about the supposed ether through which light propagated, or the phlogiston which combustible materials contained were false, so too are beliefs about mental properties and the meanings of words and sentences. According to the eliminativist, minds and meanings are just the latest in a series of large scale errors that have occurred throughout human history that the natural sciences have set right.

Eliminativism is supposed to be made innocuous by the claim that we can 'get by' just as well without the eliminated concepts. Indeed, not only get by, but perhaps get by more easily. For scientific-naturalists, philosophy is continuous with the sciences, and supplanting mental concepts with neurophysical ones should be seen like any other scientific advance. Nobody complained that the world was being purged of a luminiferous aether when Einstein's more useful theories supplanted it; it was simply accepted that the aether did not exist. Nor did people complain about the disappearance of phlogiston when combustion was discovered to involve oxidation. Its elimination was taken to be essential to a better explanation of combustion

In this spirit Quine, attempts to diffuse the apparent radicalism of the elimination of the mental by suggesting that there is not much difference between eliminating the mental altogether and improving our account of it.

"Is physicalism a repudiation of mental objects after all, or a theory of them? Does it repudiate the mental state of pain or anger in favor of its physical concomitant, or does it identify the mental state with a state of the physical organism (and so a state of the physical organism with the mental state)... Some may therefore find comfort in reflecting that the distinction between an eliminative and an explicative physicalism is unreal."³⁴

It is questionable, however, whether the analogy with scientific advances really holds here. A switch from folk psychology to neurophysiology without eliminating the explanatory gaps discussed in the last chapter really does seem like a change of subject. A more explicit justification of eliminativism is therefore required rather than the sleight of hand Quine provides.

Rorty attempts such a justification. To demonstrate the point, he hypothesises a race of creatures, the Antipodeans, who never developed

³⁴ (Quine, 2013, p. 244)

mental concepts, and use neurophysiological descriptions where we would use sensation language.³⁵ Had we spoken Antipodean all our lives, Rorty claims, “No predictive or explanatory or descriptive power would be lost.”³⁶ For Rorty, using a mental vocabulary has served only to bog philosophers down in problems that can be avoided simply by discarding that vocabulary.

There are two things that should be said about Rorty’s view. Firstly, it is questionable that Antipodean has the same descriptive and explanatory power as our own sensation language. Normally, when we ask if somebody is in pain, we are not interested in her neurons, but rather her pain. Secondly, Rorty only applies the Antipodean example to sensation language. This begs the question, would there be no loss of explanatory power if propositional attitudes were also replaced by Antipodean? Anybody who accepted Rorty’s argument when applied to sensations would surely be more dubious about this. Ascribing beliefs, desires and reasons allows us to explain behaviour in a way that ascribing quivering neuron bundles does not: as the behaviour of a rational agent.

In any case, eliminativism is something of a rash step to take when faced with the irreducibility of meaning and the mental. These phenomena appear to permeate our engagement with the world and each other.

Fictionalism

A stronger palliative than those offered by eliminativism is fictionalism. Fictionalists share the view of eliminativists on the status of recalcitrant areas of the common-sense picture—they are not really part of the world, and the statements that constitute mathematical, ethical and mental discourse are false. However, eliminativists are wont to compare the erroneous bits of the common-sense framework to past scientific theories that have been supplanted by more useful ones and are therefore to be

³⁵ (Rorty, 1981) Chapter 2

³⁶ (Rorty, 1981, p. 120)

discarded. Fictionalists attempt to chart a route to salvage bits of the common-sense framework.

The salvaging move that fictionalism performs cannot involve vindicating the veracity of the recalcitrant parts of the common-sense framework. It is a defining feature of fictionalism that it regards such statements as false, or as the name suggests, as fictional.

At this point, fictionalism deploys the idea of a useful fiction. Although mathematical, ethical and mental statements are literally false, according to fictionalism, they serve purposes other than stating facts that render them useful or beneficial in some other way. A fictionalist treatment of moral discourse, for example, might take it that moral statements make false claims to the effect that moral facts obtain, but serve the further purpose of regulating behaviour when, for example, they are used as admonishments.

Fictionalism thus combines the ontological view of eliminativists—that the recalcitrant areas of the common sense picture are not really part of the world—with a linguistic attitude. This linguistic component can be broken into two parts. First, the statements that constitute the recalcitrant areas of discourse have a literal semantic content that falsely describes the world as being a certain way—for example, as containing numbers. Second, in addition to the literal, descriptive content of the recalcitrant discourses, they have a pragmatic purpose—some function or use that is not constituted simply by claim-making.

It is in virtue of this pragmatic element of language use that fictionalists think the common-sense framework worthy of saving. The fictionalist strategy for achieving this is by encouraging more enlightened speakers to view the recalcitrant discourses as convenient fictions. Recalcitrant discourses would then proceed on the analogy of discourses that involve overt fictions. Although, strictly speaking, “Darcy married Elizabeth” is false—because Darcy and Elizabeth are not real—within the fiction of *Pride*

and Prejudice, “Darcy married Elizabeth” is true. Furthermore, when speakers utter the sentence, although they say something that is strictly and literally false, they are not attempting to commit themselves to the actual existence of Mr Darcy or Elizabeth Bennett, their claims are supposed to be taken as relativized to the fictional world of the novel.

Similarly, speakers with more enlightened meta-ethical beliefs may continue to use moral statements with a force akin to the statements made about novels. Moral claims such as “Slavery is wrong”, need not be understood as committing speakers to anything about the actual world, but rather as moves within the fiction of ethical discourse. Similarly, negative claims such as “It is not the case that abortion is wrong” are not to be understood as statements that are simply true because there are no moral facts, but rather as claims that are contentious, within the fiction of ethical discourse.

In the literature, there are two ways of understanding fictionalism about particular kinds of discourse. Hermeneutic fictionalism about a discourse is a thesis about how a discourse actually operates. According to hermeneutic fictionalism about ethics, speakers are actually making statements that are assessed for their truth relative to the fiction that is ethics. Revolutionary fictionalism, on the other hand, is a thesis about how a discourse ought to operate. Revolutionary fictionalism about ethics would hold that people only ought to make statements about an ethical world that is taken to be fictional. Note that this is consistent with an account of how people actually use ethical language according to which they take themselves to be making statements about a non-fictional ethical world, contrary to hermeneutic naturalism. Revolutionary naturalism is so named because, if hermeneutic naturalism is false, it would require a radical revision of how ethical discourse actually operates.³⁷

³⁷ The original distinction between hermeneutic and revolutionary fictionalism comes from (Burgess & Rosen, 1997, p. 6) in the context of nominalism. It is introduced to fictionalism by (Stanley, 2001).

Thus, on the fictionalist account, the scientific picture is triumphant when it comes to the contents of reality—the only truths are the truths of the natural sciences—it refuses to dispense with the discourses that constitute the common-sense framework, as eliminativism does on account of the pragmatic value. Instead, it uses the model of fictional discourse to salvage the common-sense framework from abandonment.

Both revolutionary and hermeneutic fictionalism appear to depend on believing untruths, or at least behaving as if one does in order to uphold the pretence. As Berkeley put it, “we ought to think with the learned and speak with the vulgar.”

One might reasonably ask whether such a view is consistent with scientific-naturalism. Strictly speaking, it is consistent with scientific-naturalism. In taking statements that invoke recalcitrant areas of the common-sense framework to be literally false, it does not invoke a suspect ontology. Nor does it require to employ any questionable philosophical methodology in giving an account of the pragmatic purpose of fictionalist discourse. All that this requires is for the theorist to take up a stance similar to that of the anthropologist, and observe what language users do with their utterances. Thus, on the face of it, fictionalism appears to be consistent with scientific-naturalism.

One might reasonably wonder, however, whether fictionalism is really in the spirit of scientific-naturalism. The question of how the theoretical stance of the fictionalist, as an observer of the recalcitrant discourse, interacts with the practical stance, as an active participant, that she must also adopt when moralising, modalising, calculating and perhaps even while philosophy, raises a number of questions.

Scientific-naturalism is clearly linked to the values of science, and one of these values is surely not permitting or persisting with untruths when a

more credible theory is in the offing. Although the scientific-naturalist is not required to hypothesise queer ontologies or unscientific methods as a theorist, engaged in providing an account of language and the world, she does seem to be required to advocate such an ontology and unsound methods when engaging in recalcitrant discourses as an active participant as opposed to a passive theorist attempting to give a naturalistic account of such practices from the outside.

It might be objected here that the scientific-naturalist is not required to actually believe in an unscientific ontology in order to practically engage in the discourse, she need only behave *as if* there were such an ontology. However, even this more modest shirking of one's responsibility to the truth as a norm of inquiry is not obviously in line with the spirit of scientific naturalism.

Moreover, it seems as if the fictionalist, having come to her more refined view of the recalcitrant areas of discourse, is required to keep up the pretence. If all participants in moral discourse, say, were to adopt a fictionalist account ethics, it is questionable whether the pragmatic function that constitutes the discourse's saving grace could be preserved. Participants might reasonably ask, if moral statements are false, why should I be moral? The fictionalist must therefore treat the recalcitrant area of the common-senses picture as a noble lie, which hardly seems within the spirit of scientific-naturalism.

Expressivism

A third way in which a scientific naturalist might bite the bullet that does not suffer from the difficulties involved with fictionalism is to adopt some form of expressivism. Expressivists take the fictionalist claim that statements in the recalcitrant areas are not best seen as aiming at literal truth a step further. According to expressivists, statements in the recalcitrant areas are not really genuine statements at all. That is to say, the utterances of these discourses do not express a content that is truth-apt.

Instead, the recalcitrant discourse in question has some other function or purpose which is expressed in that discourse.

Expressivism is most commonly found in ethics. Typically, expressivism in ethics holds that the utterances that form part of ethical discourse do not describe the world, but rather express attitudes of approval or disapproval on the part of the speaker. However, expressivism is also found in other areas of philosophy. Brandom, for example, provides an expressivist account of logic according to which the logical connectives make explicit (i.e. express) the form of different kinds of more primitive ‘materially good’ inferences.³⁸

Similarly, Brandom also has expressivist account of propositional attitude ascription. Very roughly speaking, rather than propositional attitude ascriptions being in the business of representing the mental facts associated with a subject, Brandom thinks that switching between *de re* and *de dicto* attitude ascriptions enables an ascriber to make explicit, or express, the substitutional inferences of an ascribtee that the ascriber is willing to endorse.³⁹ This is not the place to delve further into Brandom’s account of propositional attitude ascription. The point, rather, is that although expressivism is most commonly thought of as being a position in moral-non-cognitivism, it has a potentially wide application.

The unique features of expressivism are best brought out in contrast with fictionalism. According to the fictionalist, statements in the recalcitrant discourse are literally false. The recalcitrant discourse can be continued,

³⁸ According to Brandom’s account, one can infer “The roads are wet” from “It’s raining outside” without an additional premise to the effect of “if it’s raining outside then the roads will be wet”. For Brandom, such an inference is treated as basic, or primitive. The incorporation of logical vocabulary into a language simply enables speakers to make such inferences explicit, for example, by saying “if it’s raining outside then the roads will be wet”. See Chapter 1 of (Brandom, *Articulating reasons: An introduction to inferentialism*, 2009).

³⁹ A proper outline of Brandom’s account of propositional attitude ascription would require a discussion of his notion of deontic scorekeeping, and this is not the place for that. A *précis* of Brandom’s view can be found in Chapter 5 of (Brandom, *Articulating reasons: An introduction to inferentialism*, 2009) with the full treatment in Chapter 8 of (Brandom, 1998).

however, if it can be reconceived as a convenient fiction. The assertion that “Slavery is wrong” would be viewed as literally false, but within the fiction of ethical discourse might be seen as true.

For the expressivist, however, there is no need to accept galling claims to the effect that strictly speaking, it is false that slavery is wrong, or the perhaps even more egregious claim that, to the extent that it is true that slavery is wrong, it is only true within the context of a much wider fiction that is the entirety of ethics. For the expressivist, truth and falsity do not get a look in. Utterances such as “Slavery is wrong” are not the sorts of things that are liable to truth or falsity.

Expressivism also avoids the need to reshape the practice of recalcitrant discourse in the way that fictionalism recommends. According to fictionalism, ultimately, the common-sense framework can only be salvaged if the statements that comprise it can be reconceived as being relativized to a convenient fiction—the convenient fiction that constitutes the manifest image. This implies that insofar as participants in the recalcitrant discourses that constitute the manifest image believe themselves not to be engaged in make belief, they must instead adopt a fictionalist outlook and amend the force of their utterances accordingly. In order to salvage the utility of the common-sense framework, large parts of ordinary discourse must shift from being fact-stating discourse to fiction-stating discourse.

However, this attitude seems to violate an important principle that theorising in the philosophy of language should be subject to. This is the idea that linguistic practice must determine semantics. Robert Brandom puts the point like this:

“Semantics must answer to pragmatics. The theoretical point of attributing semantic content to intentional states, attitudes and performances is to

determine the pragmatic significance of their occurrence in various contexts.”⁴⁰

If the fictionalist were to take her cue from pragmatics, however, it is difficult to see why it would be appropriate to ascribe a fictionalist semantics to the utterances of speakers. There is nothing apparent in ordinary practice that suggests speakers are engaged in, or take themselves to be engaged in, make-belief. That is not to say that these discourses must be assertoric in the sense of being truth-apt—indeed, the expressivist will want to argue that they have different expressive function than claim-making—rather it is to say that fictionalism seems to be particularly ill-suited to describe the discourses that constitute the common-sense, manifest image as it is.

The same point might be put by saying that the only sort of fictionalism there could be would be revolutionary fictionalism—a fictionalism that flouted the answerability of semantic theory to practice. In view of this, fictionalism is perhaps best conceived as an attempt to reshape apparently fact-stating common-sense discourse into a new but similarly useful fiction-stating discourse.

Expressivism on the other hand promises to leave the common-sense discourse in place. In its reconciliation of the common-sense, manifest image with the scientific image of the world, expressivism imputes error not to the participants in the discourse but rather to the philosophers of language who have attempted to give accounts of moral, mental or mathematical language. According to expressivists, the clash of images arises because philosophers have tended to explicate all meaningful units of language in terms of truth-apt representational content.

⁴⁰ (Brandom, 1998, p. 83)

Expressivism offers an alternative. Some parts of language are not in the business of representing the world to be a certain way at all. Brandom contrasts the two views nicely in his *Articulating Reasons*:

“This representational paradigm of what mindedness consists in is sufficiently ubiquitous that it is perhaps not easy to think of alternatives of similar generality and promise. One prominent countertradition, however, looks to the notion of expression, rather than representation, for the genus within which distinctively conceptual activity can become intelligible as a species. To the Enlightenment picture of mind as mirror, Romanticism opposed an image of the mind as lamp.”⁴¹

It is through this route that expressivism reconciles the clash between common-sense, manifest image of the world and the scientific image. If the recalcitrant discourses functioned on the representationalist mirror-model, they could never be saved because they do not mirror the world as described by the natural sciences (assuming scientific-naturalism is true and reductionism has been discounted). However, the expressivist says, recalcitrant statements are not in the business of representing the world to be a particular way.

According to this view, the legitimacy of uttering “stealing is wrong”, “S is in pain” or “ $2 + 2 = 4$ ” is not contingent on the obtaining of facts that cannot be reconciled with the natural sciences. The clash between the scientific image and the manifest image is revealed to be the product of an erroneous account of language.

Expressivism is not, however, without problems. The manner in which it achieves its edge over fictionalism—by denying that language in the recalcitrant areas of the common-sense view is utilised in a way that admits

⁴¹ (Brandom, 2009, p. 7)

of truth or falsehood—has a bitter edge. Just statements such as “Slavery is wrong” cannot be said to be false, nor can they be said to be true.

It might be thought that this is a price worth paying to salvage the recalcitrant parts of common-sense discourse. We lose the rather ersatz ‘true within a convenient fiction’ that fictionalism can grant statements in these areas, but we no longer have to say that they are literally false.

This response, however, brings out the fact that expressivism’s fidelity to linguistic practice is only slightly more genuine than that of fictionalism. In ordinary practice, after all, people do make utterances of the form “It is true that X is morally wrong”, “It is false that Jones believes P” and “ $P \wedge \sim P$ is false”. It would be difficult for expressivism to account for this fact in any other way than to ascribe error to language users in their application of the truth predicate. This would not be the sort of error in the use of the truth predicate involved when somebody makes a mistake about the subject on which they are speaking—“It is true that the war will be over by Christmas”—that any theory must take in its stride. Rather, this would be a more fundamental collective error on the part of the participants in a practice. They would be in error about the sort of practice they were taking part in.

Ascribing this sort of error to language users would be to violate the principle that semantics must take its cue from practice. Certainly, expressivism takes a less radical departure from practice than fictionalism does. However, for a theory that purports to gain credence from its from a more faithful insight into what speakers are actually doing when they use language, such a departure is inexcusable. In the end, it turns out, a simple expressivism is only marginally better than the unsatisfactory fictionalism.

Quasi-Realism

A simple expressivism, as outlined in the previous section, runs afoul of the demand that semantics attempts to capture linguistic practice rather than

overturn it. However, there is a more sophisticated version of expressivism that attempts to overcome this.

The more sophisticated version of expressivism proceeds in the same manner as outlined in the previous section. It argues that some language has an expressive rather than a representational function, and is thus not in the business of reflecting how things are in the mind-independent world, thereby opening the door to a dissolution of the clash between the common-sense, manifest picture and the scientific image. However, in order to avoid the charge that is ignoring apparently realist features of discourses that must be held to be non-representational, it attempts to earn the right to all of the trappings of realist talk without endorsing a realist metaphysical stance. This is achieved through the by examining linguistic practices and attempting to find a better explanation of what speakers are using their words to do than the one offered by full-blown realists.

This project is known as ‘quasi-realism’. Its founder, Simon Blackburn, describes the task, thusly:

“The smooth clothing of statements proposed as true or denied as false disguises the living body beneath. The expressivist task is to reveal that clothing for what it is—but that is not to say that we should always try to do without it.”⁴²

The realist clothing, as Blackburn puts it, will typically include the right to use predicates such as “... is true”, “... is a fact”, “... is a mind-independent fact” and other such locations in respect of the utterances of recalcitrant discourses. Also at issue will be the ability to use such utterances from non-representational parts of language in inferences. This difficulty arises prominently in ethics as the ‘embedding problem’.

⁴² (Blackburn, 1998, p. 51)

Another difficulty will be showing how the sentences in the quasi-realist domain can be compositional, i.e. how the meanings of the sentences can be a function of its component parts, which is necessary to explain the learnability and productivity of languages. Representationalists will have little difficulty here, as they can simply rely on some form of word-world relation to give meaning to the component parts of a sentence. This is something the expressivist cannot rely on given that she regards one of the benefits of expressivism to be ontological parsimony. Instead, they will typically rely on word-word relations.⁴³

Quasi-realism, therefore, is more like a programme than a particular theory. However, the result of a fully worked out quasi-realism would enable scientific-naturalism to solve reconcile the scientific view of the world with the common sense view without resorting to any scientifically suspect metaphysics. It would do so while at the same time vindicating the discourses associated with the recalcitrant parts of the common-sense picture.

In response to this, somebody who was concerned to preserve the common sense picture might well challenge the quasi-realist's realist credentials. They may acknowledge that the quasi-realist account of the common sense picture has all of the trappings of a realist account, but when it comes down to it, the quasi-realist has it that important parts of the manifest image are not *really* real. Quasi-realism does pay lip service to realism, but ultimately it's just lip service.

The quasi-realist has a good response to this. Lip-service, she may say, is the whole point. Quasi-realism aspires to realist talk without the realism—that

⁴³ On Brandom's inferentialist account, for example, sub-sentential components have their meaning in virtue of what happens when they are substituted into sentences. If "Hesperus" can be substituted for "Phosphorus" in all sentences containing the latter without making any good inferences bad, or bad inferences good, then the two terms have the same meaning and contribute the same thing to any sentence in which they occur. Chapter 6 of (Brandom, 1998) or Chapter 4 of (Brandom, 2009)

is, without the same ontological and metaphysical commitments that a full-blown realist account of the area in question would require. Moreover, in securing the trappings of realist language, the quasi-realist would have provided an account of what locutions such as “real” and “*really* real” amount to in the recalcitrant areas. Attempting to rebut quasi-realism by pointing out that according to it large parts of the common-sense picture would not *really* be real would, by the quasi-realists lights, simply presuppose an erroneous view of what speakers are actually doing in the area of language in question—a view that the quasi-realist would take herself to have rebutted in vindicating the use of realist locutions.

The quasi-realist’s response works, however, it reveals a more fundamental difficulty. Quasi-realism typically goes about securing the trappings of realist talk by advancing minimalist theories of facts and truth. Such theories attempt to deflate apparently realist notions such as facts, truth and representation of any metaphysical pretensions. The upshot of this is that notions so deflated could be applicable to the recalcitrant bits of language without incurring metaphysical and ontological commitments that would conflict with the scientific-naturalist’s account of the natural world.

Take minimalist theories of truth, for instance. They begin with the thought that in ordinary discourse, saying “snow is white is true” is just another way of asserting that snow is white. Philosophical minimalism about truth is the idea that this feature of linguistic practice is *all that there is* to the notion of truth. Truth is not some heavy-duty metaphysical concept that must be understood by invoking ideas such as correspondence with the facts, rather it is merely a grammatical device for cancelling semantic ascent—a tool that can be used to move from mentioning a sentence to using it.

Such a feature is manifested in Tarskian T-sentences such as the one below, where ‘S’ is mentioned on the left of the schema and used on the right:

‘S’ is true if and only if S

According to the minimalist, giving a T-sentence for every sentence in a language, and you have said everything of substance that can possibly be said about truth in that language.

The quasi-realist observes that a similar move can be made for other tools of the traditional realist's trade:

'S' is a fact if and only if S (And that is all there is to the notion of a fact)

x has the property of F-ness if and only if x is F (And that is all there is to say about properties)

'S' is *really* true if and only if S (And that is all there is to say about *real* truth)

'S' is a mind-independent truth if and only if S (And that is all there is to say about mind-independent truth)

Here, one might begin to wonder whether the quasi-realist can vindicate the right to realist talk without doing down *real* realist talk. One might reasonably ask if the realist talk in the recalcitrant domains is without any metaphysical substance or commitments, then why should the realist talk in non-recalcitrant domains?⁴⁴ Indeed, unless one wants to end up with a set of bifurcated notions such as truth and facts, extending minimalism to commonly accepted realist areas of discourse must be carried out. Indeed, some expressivists embrace this approach and adopt a global expressivism coupled with a minimalist strategy to deflate realist concepts of any metaphysics across the piste.⁴⁵

⁴⁴ Dreier suggests that similar problem of "creeping minimalism" occurs in ethics. (Dreier, 2004)

⁴⁵ (Price, 2011) and (Brandom, 1998) are two notable examples.

Now, perhaps the quasi-realist could give a plausible account of certain areas of discourse that would not bring with it any metaphysical or ontological commitments. However, it is implausible that this could be carried out across the board. Not only would the global quasi-realist deny that the best way of making sense of ethical talk was to suppose that the discourse depended on certain metaphysical commitments—a position that some might find plausible. It would also hold that even scientific discourses do not presuppose any metaphysical commitments.

Perhaps a quasi-realist could concoct a story from the perspective of linguistic anthropology that was an internally consistent account of the sciences that did not conceive of it as answerable to how things are in nature. The point, however, is that such an account would surely be explanatorily inferior to the realist account. The best way to conceive the scientific enterprise is as an attempt to get one's thinking and one's language in accord with the facts. This implies that the discourse itself presupposes robust metaphysical commitments.

This, I think, brings out a wider problem with biting the bullet strategies. With the exception of eliminativism, which does not even attempt to salvage the common-sense framework, they all attempt to leave in place the common-sense framework without securing answerability to the world. It is difficult to see how this could be acceptable to anybody who was concerned to preserve the common-sense, manifest picture could find this acceptable. If the correctness of moves in, say, mental discourse is not answerable to how things are with the purported subjects of mental ascriptions, this would constitute a radical departure from the ordinary picture of what this discourse involves.

It has to be remembered that the common-sense, manifest picture of the world is, as the name suggests, a picture of *the world*. Any option that attempts to remove the answerability of mental or ethical discourse to how

things objectively are is inevitably going to be revolutionary, even if it comes with the trappings of realist talk.

Conclusion

In the above considerations, I have not demonstrated that biting the bullet strategies are not internally sustainable systems. I have only shown that anybody who wants to maintain the parts of the common-sense framework that are incompatible with the scientific-naturalism should not be satisfied by the palliatives offered by bullet-biting strategies. If one thought that scientific-naturalism was the only game in town, all this would succeed in doing would be to force an overtly painful choice between abandoning large parts of the common-sense, manifest picture, and abandoning a naturalistic world-view.

This is the sort of choice that nobody would make if it were not forced. In the next two chapters, I show that the choice is non-compulsory. It is non-compulsory because scientific-naturalism is not the only form that a naturalistic world-view can take. In the next two chapters, I first attempt to undermine the motivations of scientific-naturalism and reject it. I then defend the more liberal naturalism that results. The upshot is that one can maintain both the common-sense, manifest picture of reality without giving up a naturalistic worldview.

Chapter 4 – The Motivations for Scientific Naturalism

In the previous two chapters, I have argued that neither reductionist strategies nor eliminativist strategies can succeed in reconciling the common-sense, manifest view of the world with the scientific-view of the world. This amounts to an argument for the incompatibility of scientific-naturalism and the manifest image. It is not possible to domesticate the manifest image within the scientific image through reduction, and nor can the clash be dissolved by showing that an allegiance to manifest image can be retained without any ontological or metaphysical commitments.

One option at this point would be to abandon our allegiance to the common-sense manifest picture all together. This would be to accept that the palliatives that the more advanced bullet biting strategies offer are false promises, but insist that if one has to bite a bullet, better to deny the common-sense framework than scientific-naturalism. I will argue, however, that it is scientific-naturalism can be abandoned without great loss.

In this chapter, I will attempt to show that scientific naturalism is itself without independent foundation. I will do this by considering the motivations that might lead to it. I will focus on two claims. First, that the great success of modern science supports scientific naturalism. Second, that only a scientific account of the world could secure objectivity.

The great success of modern science

According to De Caro and Macarthur, the most popular argument for view that all there is to nature is what the sciences have to tell us proceeds from the great success of modern science.⁴⁶ The argument notes that the advances of science have drastically improved our understanding of the world and humanities place in it, our technological capabilities, our ability to predict events, our economic well-being, our health and our quality of life more generally in innumerable ways.

⁴⁶ (De Caro & Macarthur, 2004, p. 4); (McDowell, 1996, pp. 70-2) also suggests that scientific naturalism is motivated by the success of natural science.

Contrast these achievements to the non-scientific disciplines that aim to improve our knowledge and understanding of the world. For all the tombs of philosophical, historical, ethical, economic and political thought, it might be suggested, all that has been produced is a multitude of rival theories with little agreement about which are the superior, and no settled and determinate means of deciding between them. The sciences, on the other hand, have produced the theory of evolution, special and general relativity, the laws of thermodynamics, the sequencing of the human genome, to name but a few success stories, about which there is widespread agreement and demonstrable utility.

The argument from the great success of modern science, draws from these considerations the conclusion that the sciences are the only game in town when it comes to understanding reality. Not only do the sciences provide the only legitimate means of discovering truths, according to the argument, but they provide the only legitimate means by which the natural world is delineated.

Curiously, De Caro and Macarthur do not provide any examples scientific-naturalists who explicitly make this argument. I suspect, however, that they are correct that considerations along these lines are motivating factors in the background of scientific naturalism. There is a tendency to think that its success is to the exclusion other disciplines. As C.P. Snow perhaps reveals when in his polemic lecture on *The Two Cultures*, he says that the scientists have “the future in their bones” while the non-scientific culture, which Snow refers to as “the traditional culture” (as well as “natural luddites”), would rather that the future did not exist.⁴⁷

Despite the paucity of examples, then, the argument is worth addressing explicitly. While there may be few examples of statements of global

⁴⁷ (Snow, 2012, p. 12)

scientific-naturalism based on the great successes of modern science, there does seem to be an abundance of localised examples where the sciences have supplanted other modes of investigation as a result of their great successes.

Take medicine, for example. It used to be the case that cures for diseases and ailments were sought through all manner of non-scientific means—relics, occult healers, witch doctors, prayer, exorcism, etc. Now, however, while some people still swear by homeopathy or other forms of ‘alternative medicine’, most are correctly inclined to think that such enterprises are dangerously misguided. The application of the modern sciences in medicine has demonstrated its success and utility through the great advances in understanding of human physiology that have been achieved in the last few centuries, and the resultant profusion of cures and treatments that have been discovered for previously deadly diseases. Moreover, a scientific approach to medicine can take up and embrace within its explanatory framework any apparently positive effects that alternative medicines might have through concepts such as the placebo effect.

In medicine, the abandonment of non-scientific modes of investigation and understanding really does seem to stem from the utility and achievements of the sciences, as opposed to the acceptance of some kind of metaphysical principle. I do not want to question this. Indeed, I take it that scientific investigation is the only form of investigation likely to yield truths and understanding of human physiology. What I want to question is the idea that local acceptance of the pre-eminence of the sciences could be transformed into, or perhaps even justify, the sort of global monopoly for the sciences that scientific-naturalism advocates.

Perhaps it is not surprising that the argument for such expansionism is rarely stated, for it is clearly invalid. The claim that modern science has produced great advances is surely correct, but it does not support the conclusion that, in Sellars words, “In the dimension of describing and

explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not.”⁴⁸ Evidently, it is perfectly compatible with the sciences being extremely fruitful fields of great achievement that other forms of investigation can yield truth.

Nor can the local acceptance of a monopoly of the sciences support a wider extension. It is unclear why the acceptance that science is the only game in town when it comes to medical discovery should license the claim that science is the only game in town *tout court*. Other areas of investigation, it might be claimed, have a fundamentally different nature than medicine and thus admit of different kinds of investigation, perhaps even forms of investigation that yield truths that the sciences could not. In chapter 2, I argued that meaning and the mental were two such areas.

What, undoubtedly, the pre-eminence of the sciences in a field such as medicine should encourage, is the attempt to employ scientific methods in other related and, perhaps also unrelated fields. One might suppose, for example, that given the success of the scientific method in medicine, it might also lead to great advances in our understanding of the physiological mechanisms that underpin phenomena such as visual experience, thought and sensation. Indeed, one would be correct in thinking so given the achievements of cognitive science. However, it would be a further, unlicensed step to say that all there is to say about visual experience, thought and sensation can be said by the sciences.

It seems to me that there are two means by which one might license the globalising move that results in scientific-naturalism. The first would be to accept some form of epistemological principle about non-scientific methods to the effect that they are not effective means of discovering truths. I suspect this is what most people who advocate a scientific approach to medicine, at least tacitly accept in a localised form—scientific investigation is the only

⁴⁸ Section 42 of (Sellars W. , 1997)

effective means of coming to know about the ailments of the human body and the ways to treat them. To support scientific naturalism, the claim must take a more global form—the sciences are the only effective means of coming to know about reality.

Such an epistemological principle is perhaps suggested by the argument from the great success of modern science in its contrast of the sciences with other, non-scientific disciplines. The principle requires would, however, have to be extremely strong in order to license scientific naturalism. It would have to assert that the sciences are the *only* effective methods of investigation, which seems to imply that other forms of inquiry cannot yield truth or knowledge at all. Such a principle is clearly too strong, and indeed, patently false.

Economics, for example, has manifestly yielded theories that have predictive and explanatory power, many of which can be credited with advances in the material wellbeing of society in the same way the sciences have. The acceptance of the Mundell-Flemming model, which tells us that that a country cannot simultaneously maintain a fixed exchange rate, the free movement of capital and an independent monetary policy, has put an end to frequent Sterling crises. The economics of information asymmetries can explain why insurance companies structure their products in the way that they do.⁴⁹ Despite these successes, economics is frequently lampooned for not demonstrating the same convergent tendencies as the sciences are taken to have. ('Ask two economists the same question and you'll get three different answers', 'If you laid all the economists end to end you'd never reach a conclusion', and so on).

Political science has also yielded theories that exhibit predictive success. Professors of government can tell you with a reasonable chance of success how likely it is that a country which has undergone a democratic transition

⁴⁹ Joseph Stiglitz won the Nobel Prize for work on this question.

will stay democratic based on its level of income and the number of years it has remained democratic. She would be able to say with some confidence how many significant political parties there are likely to be in a country based on the knowledge of its electoral system.

Despite these successes, neither economics nor political science conforms to the picture of natural sciences embraced by scientific-naturalism. Both economics and political science seem to ineliminably presuppose parts of the common-sense framework. It would be impossible for either to be done without assuming the existence of rational agents acting for reasons and in light of values in ways that are not readily explicable in terms of the natural sciences. Indeed, some practitioners would argue that is the very subject matter of the disciplines.

It would be a mistake, however, to suppose that it is only when parts of the common sense framework are elevated to a more rigorous footing that they can yield predictive success and truths. It is not just the social sciences that have yielded theoretical success. Surely the ascription of propositional attitudes to people also helps us explain and predict their behaviour. Not just in the laboratory setting and the SCR, but in everyday interaction between people. Indeed, that is often taken to be the point of such ascriptions.

Similarly, other modes of investigation than science have led to improvements in the wellbeing of a great many people. The great moral achievements of the previous few centuries, such as the abolition of slavery, and the more general development of societies that are far more liberal and tolerant than any that have been seen previously, has little, if anything, to do with the sciences. Perhaps the sciences can inform such moral advances—the scientific study of animals seems like a plausible area that might do so—but it is not in the business of providing first-order moral insights.

The conclusion to draw from these considerations is that the characterisation of the non-scientific disciplines that the argument from the great success of modern science trades on to support the leap to scientific-naturalism does not adequately credit their successes and utility. The epistemic principle on which the argument might trade—that the sciences are *only* effective means of discovering truths about the world—is simply false.

I noted earlier that there are two means by which the globalising move might be made. The second is by motivating a metaphysical principle along the lines of—only the things and facts countenanced by the natural sciences are part of the world. Clearly, such a principle might underpin the epistemic principle discussed above. Similarly, it might be supported by evidence that the epistemic principle was true. If the sciences were found to be the only effective means of discovering truths about the world, it could be argued that that was because the scientific facts are the only facts there are.

It seems clear that this latter argument for the metaphysical principle—from the epistemological principle to the metaphysical principle—is the only way that an argument from the great success of modern science might proceed.⁵⁰ I have already argued, however, that the epistemological principle is false. I therefore conclude that the argument for scientific-naturalism from the great success of modern science does not succeed. In order to arrogate the sciences to the exclusion of other disciplines, it is necessary to supply an additional premise to that the fact that modern science has produced great successes and achievements cannot support.

It may, however, be possible to motivate scientific naturalism by other means. Below, I consider two further arguments that are designed to support Sellars' conclusion that science is the measure of all things.

⁵⁰ A more direct argument that started with the observation that the sciences have had great success, but only in discovering objects and facts countenanced by the natural sciences, would evidently be circular.

Science, objectivity and the Archimedean viewpoint

In the first chapter, I noted that scientific-naturalism begins to encounter trouble when human beings are considered. Indeed, Sellars famous contrast between the scientific image and the manifest image is fully rendered as the contrast between the scientific image *of man in the world* and the manifest image *of man in the world*.

One way of expressing this is to say that the common-sense, manifest picture of the world is anthropocentric. The idea is that the common-sense framework cannot be made intelligible without reference to the abilities and capacities that seem particular to humans. Such a view is perhaps most familiar in respect of some dispositionalist accounts of colour. According to such views, the property of being red is unintelligible without reference to how red things look to observers with a human perceptual system, or a sufficiently similar one. Similar points might clearly be made in respect of conscious qualia. Pain, for example, plausibly cannot be understood without reference to what it's like for somebody to be in pain.⁵¹

Other parts of the common sense picture might also be taken to be anthropocentric in just this sense. McDowell has argued that moral properties can be understood as being analogous to secondary qualities.⁵² In the *Critique of Pure Reason*, Kant argues that space, time and ultimately the self as the self-conscious subject of thought and experience, cannot be made intelligible apart from human modes of sensibility and thought.

Similarly, Wittgenstein's argument in the rule following passages can be taken as an argument that facts about meaning (and normative facts in general) are only intelligible against the background of human practice, or

⁵¹ (Nagel, 1974) makes this point in another way.

⁵² (McDowell, 1988)

as Wittgenstein sometimes puts it, our “form of life”.⁵³ He makes similar points in respect of mathematics. For example:

“‘But mathematical truth is independent of whether human beings know it or not!’—Certainly, the propositions ‘Human beings believe that twice two is four’ and ‘Twice two is four’ do not mean the same. The latter is a mathematical proposition; the other, if it makes sense at all, may perhaps mean: human beings have *arrived* at the mathematical proposition. The two propositions have entirely different *uses*. —But what would *this* mean: ‘Even though everybody believed that twice two was five it would still be four’? —For what would it be like for everybody to believe that? —Well, I could imagine, for instance, that people had a different calculus, or a technique which we should not call ‘calculating’. But would it be *wrong*? (Is a coronation *wrong*? To beings different from ourselves it might look extremely odd.)”⁵⁴

On each of these accounts, facts about norms, colours, meaning, minds or morals, are dependent in some sense upon a distinctively human standpoint.

Now, philosophers who are concerned with what is really part of the world and what is not might be inclined to worry about anthropocentricity. If the common-sense framework is only intelligible against the background of a parochially human point of view, they might be tempted to suggest that it cannot form part of our conception of how the world really is in itself. According to such philosophers, reality itself is fundamentally third-personal. All of the facts and properties that constitute it can in principle be described without essential reference to a particular point of view. Thus, norms, colours, meaning, minds, mathematics and anything else that

⁵³ See, for example, (Wittgenstein, 2010) section 241. For a different argument to the effect that facts about language cannot be understood without reference to human capacities or interests, see (Wiggins, 1997, p. 518)

⁵⁴ (Wittgenstein, 2010) pt2. p.227-8

depends upon some local or parochial point of view are forced out of our conception of how the world objectively is.

This view is discussed in detail by Bernard Williams in a way that connects it to scientific-naturalism.⁵⁵ Suppose there are two thinking subjects, A and B. A and B both have beliefs and experiences that represent the world to be a particular way. The way these beliefs and experiences represent the world to be may well be different—A may believe things to be thus and so, B may believe something else. If A's and B's beliefs are to be assessed for their correctness, what is required is a coherent way of understanding how and why their beliefs differ and how they relate to one another. For example, we might understand A and B as having different but compatible perspectives on the same object, contradictory beliefs about the same object with one in the right and one in the wrong, or believing different things about separate objects, etc.

This further representation, which encompasses and relates the representations of A and B, is referred to by Williams as the absolute conception of reality. Williams argues that such a conception appears to be compulsory if we are to have a concept of reality as what is there anyway, aside from our own beliefs and viewpoint. This, however, leads to a regress. In order to form a conception of an independent reality, we are required to form an overarching representation that encompasses within it all other representations, and relates them to one another and the world. However, this overarching representation would itself simply be another representation that would necessarily involve our own beliefs, forms of experience and thought and conceptual frameworks. As such, the overarching representation could be brought within an even more overarching representation.

Williams expresses the concern in the form of a dilemma:

⁵⁵ (Williams, *Descartes: The Project of Pure Enquiry*, 2005) especially p.48-51 and p228-230

“On the one hand, the absolute conception might be regarded as entirely empty, specified only as ‘whatever it is that these representations represent’. In that case, it no longer does the work that was expected of it and provides insufficient substance to the conception of an independent reality; it slips out of the picture, leaving us only with a variety of possible representations to be measured against each other, with nothing to mediate between them. On the other hand, we may have some determinate picture of what the world is like independent of any knowledge or representation in thought; but then that is open to the reflection, once more, that that is only one particular representation of it, our own, and that we have no independent point of leverage for raising this into the absolute representation of reality.”⁵⁶

In the absence of some kind of Archimedean point, the regress of non-absolute conceptions of reality could continue forever. This can make the regress seem inescapable. After all, strictly speaking, there can be no such thing as an Archimedean view if such a thing is understood as the view from nowhere, shed of anything particularly human or parochial. Any viewpoint or perspective on the world is perspectival as a matter of definition.

Williams is sensitive to this. However, he suggests there is a way to halt the regress that does not trade on a dubious notion of an Archimedean point. According to Williams, the culmination of science that CS Peirce envisaged would furnish us with concepts that would not be peculiar to ourselves or relative to our experience. Although the idea of a view from nowhere, from outside all concepts, is a nonsense according to Williams, there is a possibility of a perspective that does not contain anything that unique to that perspective. Science steps in as a kind of transparent mode of access to reality. Though our beliefs about the world are necessarily adopted from a

⁵⁶ (Williams, *Descartes: The Project of Pure Enquiry*, 2005, p. 50)

particular viewpoint, scientific concepts do not smuggle in anything that reflects “merely a local interest, taste or sensory peculiarity.”⁵⁷

It is now clear how Williams discussion of the absolute conception of reality supports scientific-naturalism. The concept of objective reality, the argument goes, contains nothing that is perspectival or tied to any particular parochial point of view. Only scientific representation of the world contains no concepts that reflect local interests, tastes or peculiarities of sense or thought. Therefore, the only objective reality there could be is the one delineated by the natural sciences. Science is the measure of all things, of what is that it is, and of what is not that it is not.

This argument, however, is flawed. First, it is not clear that the sciences succeed in avoiding parochialism any more so than our other endeavours. To begin with, the scientific method must to some extent be historically situated because the method of investigating the world is not independent of its results. Cloud chambers, which allow the trajectories of subatomic particles to be observed, were introduced into physics as a result of beliefs about the structure of the atom, not *vice versa*.

The same is true for the more abstract parts of the scientific method. If some kind of Kantian or Wittgensteinian thesis about the particularity of human modes of thought is true it is unclear why the scientific method should be immune. Lear, for example, offers one such reading of Wittgenstein, which is explicitly indebted to Kant, according to which the form of human “mindedness” from which there is no getting outside of includes “perceptions of salience, routes of interest, feelings of naturalness in following a rule, etc. that constitute being part of a certain form of life.”⁵⁸

All of the things Lear includes under the heading of mindedness seem to be relevant to theory choice in the sciences. One might also add standards of

⁵⁷ (Williams, *Descartes: The Project of Pure Enquiry*, 2005, p. 229)

⁵⁸ (Lear, 1982, p. 385)

good and bad argument, simplicity and elegance. According to the Kantian-Wittgenstein view, these abstract elements of the scientific method are embedded within parochially human forms of life.⁵⁹ In this respect, the special methods of the sciences are no more able to achieve an Archimedean point than other methods of investigation.

In an illuminating discussion of Sellars' attempt to reconcile the scientific picture and the manifest image, Willem deVries accuses Sellars of "a subtle process/product" confusion.⁶⁰ According to Devries, we can distinguish between the scientific method as a process and the scientific image of the world as its product. This distinction can also be put to some use in the context of Williams' attempt. While the 'product', that is the structural description of the world in terms of particles, might appear not to depend upon parochial aspects of the human condition, the 'process' that yields it (the scientific method) most definitely does depend upon parochially human routes of interest, standards of similarity and feelings of naturalness in following a rule. Williams' claim that science can halt the regress trades on the questionable idea that the 'product' of the sciences can be insulated from the 'process' by which it is uncovered.

The second manner in which Williams' argument fails is in the claim that the sciences can embrace within it and explain all representations. This was the key task of the absolute conception. However, the hypothesis with which we began was that some anthropocentric properties are unintelligible without reference to the human point of view, with colour properties and sensations being paradigmatic examples. Now, given that the concepts employed by the natural sciences are supposed to be free of local interest, taste or sensory peculiarity (though I have argued that this is questionable), it seems impossible *ex hypothesi* that representations of anthropocentric properties could be accounted for in scientific terms.

⁵⁹ It is fitting that Williams himself has played a part in popularizing such a reading, (Williams, Wittgenstein and Idealism, 1973)

⁶⁰ (deVries, 2012, p. 13)

The reason for this is that part of what embracing the and explaining all other representations must involve for the absolute conception is embracing and explaining their content. This will include contents such as “The apple is red” and “I am in pain”. We might also take it to include cases of moral experience that at least represent moral properties as being part of the world.⁶¹ It would only be possible for the sciences to do this, however, if it were possible to render redness as an objective property intelligible without essential reference to how red things look to human beings. More precisely, it would require an account of redness in terms of the natural sciences that left nothing out, and the same for pain and ethical facts, too. Such an account does not seem to be in the offing.

I conclude that the idea that the natural sciences provide a method of enquiry that can halt Williams’ regress is an error, and thus considerations about objectivity and the absolute conception cannot support scientific naturalism.

What then for Williams’ dilemma? Without the natural sciences as a transparent mode of access to reality are we doomed to oscillate between its two horns, doomed to be without a conception of objective reality?

I suspect the error here is to think that the only sort of facts are ones that are not dependent upon a particular point of view, hence Williams’ hankering for some sort of proxy for the Archimedean viewpoint. In reality, the only model available to us when we consider reality and our place in it is not Archimedean but Neurathian. Like Neurath’s sailor, there is no getting off our ship to survey its standing from “sideways on”, as John McDowell has put it. This should not, however, make us think the anthropocentric properties and enterprises, least of all science (!), are not *really* real. Instead,

⁶¹ Even a moral anti-realist can grant that value is so presented.

we should simply accept that they are essentially human concepts and enterprises, and that is to be expected, given that we are humans.

Conclusion

I have argued that the most popular argument for scientific-naturalism, according to De Caro and Macarthur—the argument from the great success of modern science—does not support the conclusion that science is the measure of all things. The great success of modern science is perfectly consistent with other modes of inquiry yielding knowledge and other kinds of non-scientific fact obtaining. In order to support an epistemic thesis that might license scientific-naturalism, the great success of modern science argument must play down the achievements of non-scientific disciplines to unacceptable levels.

I further argued that a second method of supporting scientific naturalism, based on the third-personal, non-parochial character of scientific concepts and inquiry, cannot succeed either. The aspiration to an Archimedean view on which such an account trades can never be fulfilled. Nor can the sciences serve as a proxy for such a view. The sciences, like any other human intellectual inquiry, themselves depend upon local human forms of thought.

While these may not be the only motivations behind scientific naturalism, they are prominent in the literature. I want to conclude this chapter by suggesting that naturalism and the sciences are not so closely linked as scientific-naturalism has it. That is to say, we can have a form of naturalism that is not scientific naturalism.

Putnam has claimed that scientific-naturalism is driven by a “fear of normativity”.⁶² Certainly, normativity and the attempts of scientific-naturalism to domesticate it played a central role in Chapter 2 of this thesis. However, as well as being troubled by apparently phenomena like morals, meaning and the mental, scientific-naturalism is also concerned to exorcise

⁶² (Putnam, 2004, p. 70)

properties that apparently have nothing to do with normativity from the natural world. Colour properties, modal properties and sensations such as pain have all come up in the foregoing considerations.

This leads me to believe that the fear of normativity described by Putnam can be subsumed by a more general fear—the fear that there is no alternative to Scientific-Naturalism but occult mysticism. If norms exist, the line of thought goes, they must be very queer things, and the same can be said of modal facts. Similarly, if we are to be realists about colours then we must accept a view in which the peculiarities of the human visual system are mysteriously built into the fabric of a mind independent reality.⁶³

In the final chapter of his *The Last Word*, Nagel dubs this fear—the fear that anything but scientific naturalism must be something very odd—the “fear of religion”.⁶⁴ The last thing I want to do is open the door of the natural world to religion. That would be perverse—if any religion were true, the corollary would be that naturalism (scientific or otherwise) was false. However, Nagel’s characterization of the fear—the fear that if it’s not scientific-naturalism, it must be something like religion—is apt, because the fear is misplaced.

In the final chapter, I attempt to neutralise this fear by saying something about how a naturalism with a looser relationship to the sciences than scientific-naturalism should still be considered to be a form of naturalism.

⁶³ See (Mackie, 1977, p. 38) for the classic formulation of the argument from queerness in an ethical context.

⁶⁴ (Nagel, *The Last Word*, 2003)

Chapter 5 – An Alternative Naturalism

Scientific-naturalism, I argued in chapter one, is the driving force behind the clash of the scientific image of the world and the common sense, manifest world view. In the following two chapters, I argued that attempts to dissolve the clash cannot succeed. Reductive strategies cannot account for the normative facts that are part of the common-sense picture, while more eliminativist strategies cannot do justice to the realism that we should like to adopt towards it. I concluded the previous chapter by suggesting we reconcile the clash of images by rejecting scientific-naturalism.

It is evident that rejecting scientific naturalism opens the door to a reconciliation of the common-sense picture and the manifest picture in a way that other strategies cannot. Insofar as scientific-naturalism precludes the existence of any non-scientific facts, its rejection allows for a sort of metaphysical pluralism according to which both scientific and non-scientific facts can exist. This would allow us to accept the irreducibility of the common-sense picture to the sciences without forcing us to deny that the common-sense picture was factual.

Such metaphysical pluralism, however, suggests a difficulty that a picture that rejected scientific naturalism might face. Scientific-naturalism purports to earn its naturalistic credentials by using the natural sciences as a standard. This is not available to somebody who rejects the idea that it is the sciences alone that delineate the nature of reality. It might, therefore, be asked whether such a picture can genuinely be considered to be a natural one. The more liberal naturalism that I have suggested is required to reconcile the scientific picture with the common sense framework seeks to occupy a position between scientific-naturalism on the one hand and supernaturalism on the other. This objection states that no such position is possible.⁶⁵

⁶⁵ (Neta, 2007) suggests exactly this.

The first thing to say about this argument is that it appears to beg the question. The suggestion that there is no space for a position between scientific-naturalism and supernaturalism can only be drawn from a pre-existing commitment to the idea that anything that cannot be reduced to the natural sciences is thereby supernatural. This cannot be a legitimate move when what is at stake is what can properly be considered to be a naturalistic conception of the world.

However, somebody who was too open minded to deny that there exists any conceptual space between scientific naturalism and the supernatural whatsoever might find legitimate puzzlement here. She might acknowledge that there is a vast difference between non-reductive mental properties or norms, on the one hand, and witches and wizards on the other. However, she might wonder on what basis the no man's land between a world that contains only physical particles, and a world that contains gods, ghouls and magic, might be claimed for the naturalist.

Consider Stroud's view, for example. He argues that a more expansive naturalism should impose no restrictions on itself in advance on the grounds that we "must accept as true everything we find we have to accept in order to make sense of everything that we think is part of the world.". Clearly, this account does nothing for somebody who worries about the possibility of a naturalistic position between scientific-naturalism and supernaturalism. Indeed, it seems to make the idea of naturalism vacuous. Stroud himself appears to acknowledge this when he suggests that his view might as well be described as "open-mindedness", with the term "naturalism" reserved as a "slogan" for those who believe that no supernatural agents are at work in the world.⁶⁶

However, I think we can be more specific about the requirements on a more liberal naturalism. Stroud's view appears to collapse the distinction between

⁶⁶ (Stroud, 2004, p. 35)

the concept of a natural world and the concept of reality, natural or not. Indeed, it is not clear why somebody who subscribed to Stroud's view should deny that supernatural agents might turn out to be at work. In order for a view to be considered a form of naturalism at all, it seems, it must impose some restrictions on the sorts of things it is willing to countenance.

In these final sections, I outline what some of these restrictions should be, and defend a naturalism shorn of its privileging of the sciences from the charge that it cannot be considered naturalistic.

Naturalism and the Supernatural

Perhaps the best place to begin in showing why a naturalism that has a more distant relationship with the natural sciences can still be considered naturalistic is with the areas in which scientific-naturalism and the more liberal naturalism agree.

One such area is in the rejection of the supernatural. This includes any kind of supernatural entity such as gods, ghosts, witches and the like, and also the sort of supernatural epistemic faculties that go hand in hand with these entities, such as divine revelation, clairvoyance and precognition. Neither the scientific naturalist, nor the more liberal one wants to end up in a position such as the one Fodor describes, whereby a subject is conceived as a "faculty dualist who is, willy-nilly, landed with occult powers."⁶⁷

Now, at this point, it might be objected that an appeal to the supernatural is circular. Our notions of what is natural and what is supernatural are mutually dependent upon one another, and thus an appeal to the supernatural must presuppose a theoretical notion of the natural. As such, some independent means of demarcating the natural from the supernatural, such as the natural sciences, is required.

⁶⁷ (Fodor, 1998, p. 7) For Fodor, of course, the only way of dispelling the aura of the occult he associates with forms of human understanding such as understanding the meaning of a word is by subsuming them under the sciences.

I think it is easy to make too much of this argument. After all, it is possible to appeal directly to entities such as gods, ghouls and magic as the sorts of things that a more liberal naturalist would reject without, apparently, making an appeal to a concept that was itself supposed to be explained by an explication of liberal naturalism.

Nonetheless, I think we can highlight something that can play a role similar to the role the natural sciences play in scientific-naturalism. Presumably, the role is supposed to be something like this. The natural sciences are means of finding out about the natural world, therefore anything they discover is *ipso facto* natural, and we must discount anything that is not discoverable by them as non-natural. I think a similar argument is available to the more liberal naturalist.

This argument can be brought out by the way in which certain realist accounts of norms reject Platonism. According to Platonist accounts of norms, say the norms that are involved in mathematics, ethics or meaning, the norms were always 'out there' for us to discover, and mind-independent constituents of reality. They might have never been happened upon by humans.

Some realists about norms, McDowell for example, reject that norms can mysteriously float freely of human practice. Instead, roughly speaking, norms are instituted by human beings. This does not, however, imply that the facts about norms can simply be reduced to beliefs in a way that would make it true to say, whatever people believe is right is true. According to this sort of minimal realist, there is a form of ratification-independence that does not rely upon a Platonistic construal of norms.⁶⁸

⁶⁸ McDowell makes this point in respect of meanings in section 12 of (McDowell, 1984) when he argues that a recoil from the Platonist picture should not be seen as a recoil from the idea of a ratification independent conception of whether the meaning of a word is correct or incorrect.

Now, the sort of move that these minimal realists make seems to me to be a move of a naturalistic bent. What it is that makes the Platonistic construal of norms that constitute the facts of mathematics, ethics and logic queer is that they are wholly autonomous from any human practices. Instead, according to this sort of realist, we must have an account of norms that is in some sense related to the things that human beings do.

I think that we can generalise this sort of move. Let us grant that science yields natural facts and entities. Let us further grant that any entities or facts that are instituted by human practices or capacities constitute natural entities and facts. The argument for this would be that human beings are natural creatures (what else could they be), in virtue of this, any facts that are instituted by human beings are thereby natural facts.

Now, clearly, the notion of instituting a fact is a difficult one requiring fuller elaboration. However, the picture is not completely unfamiliar to contemporary philosophy. It is the picture McDowell has about moral facts, the picture that Wittgenstein has about mathematical, mental and linguistic facts, and the picture that Brandom has about facts in general.⁶⁹

Supposing we could come with these philosophers to see the facts associated with the common-sense picture as instituted by human practices, on my method of drawing a line between the natural and the supernatural, they would come out as perfectly natural facts. Similarly, gods, ghouls and magic do not seem to be the sorts of things that could be instituted by human practices, and thus they come out as supernatural.

My method also does justice to the insight of Sellars that it is only when we consider the place of human beings in nature that things begin to get difficult. By adopting a form of naturalism that emphasises the naturalness of human beings, and indeed, partly delineates the natural world on the

⁶⁹ Chapter 8 of (Brandom, 1998), and (McDowell, 2006)

basis of their activities, we can avoid many of the placement problems traditionally associated with naturalism.

Fodor's worries that such an account might lead to a conception of persons as endowed with occult epistemic faculties might also be addressed. For a Platonist, it is clearly difficult to explain how an edifice of facts that is wholly autonomous of anything to do with human beings might be accessible to human minds.⁷⁰ One response has been to posit special faculties that are designed to latch on to such facts. Fodor is right to be suspicious.

For Fodor, however, the origins and functioning of the faculties he imagines can only be "occult"; he is a scientific-naturalist. However, there is a liberal naturalism that takes natural facts to include those instituted by human practices. It can say that the ability to know about certain facts, those instituted by human practices or made possible by human capacities, comes when people are initiated into the instituting practices. Such initiation might include into language, or into moral practices, as all children typically are.

By describing how human beings are *actually* initiated into practices, we make it intelligible how they can come to know facts instituted by those practices. Further, by showing that nothing mysterious or spooky happens when somebody is inducted into a practice, we can claim a certain form of naturalistic advantage over other views. For example, it might be supposed that a child becomes sensitive to norms not by engaging its mind with the platonic heavens, but through commonplace teaching and instruction, giving explanations, correcting mistakes, rewarding good behaviour and punishing

⁷⁰ Indeed, it is a problem for somebody who subscribes to a certain understanding of the absolute conception of reality that was discussed in the previous chapter. It is the difficulty that that led Kant to suggest that we can never know about the world as it is in itself (that is, detached from our ways of understanding it).

bad. Nothing here is unusual, it is simply part of an ordinary human upbringing.⁷¹

Philosophy and the sciences

A second point that might be made to diffuse worries that a more liberal naturalism is unscientific is that it must still be required to accept the best science available as truth. A naturalistic philosophy should not take itself to be in a position to refute the sciences, from the arm chair, as it were, and a more liberal naturalism is included in this.

That is not to say that philosophy should steer completely clear of the sciences. This thesis has, after all, had at its core the relationship between philosophy and the sciences. Similarly, philosophers have made grand claims about the domains of cognitive science and its relevance to traditional philosophical problems.⁷²

However, philosophy should not get involved in first order scientific claims. Take the dispute over whether or not scientific naturalism is truth with which I have been engaged. It should be obvious that scientific-naturalism is not itself a scientific theory. Rather, it is a piece of metaphysics. Rather than engaging with any particular scientific discovery, it is a claim to the effect that whatever science does discover, that is all there is to the world. Similarly, the dispute between McDowell and Burge about the role of cognitive science is not a dispute about any first order theory. Rather, it is a dispute about what cognitive scientists are actually investigating and its relationship to conscious experience. Is it conscious experience itself, as Burge might be inclined to say, or is it the mechanism that underpins conscious experience as McDowell would be more likely to say?

⁷¹ Many take this to be a point Wittgenstein makes in the rule-following passages. Kripke has also taken a similar line to rebut what he considers to be a mistaken, and seemingly unnatural, conception of possible worlds. (Kripke, 1980, pp. 43-44)

⁷² This exchange begins with (Burge, 2005)

Thus, insofar as a more liberal naturalism does not touch on the first order claims of the sciences, it is not unscientific. The rejection of scientific naturalism should be regarded not as anti-science, but rather as anti-scientism.

There is another sense in which this sort of naturalism cannot be said to be unscientific. A liberal naturalism does not attempt to bring back the notion of “first philosophy”. According to such a notion, most commonly associated with Descartes, science itself stands in need of justification as a means of yielding knowledge, which is the task of philosophy. Its rejection might even be considered to be positively naturalistic. Quine, for example, at one point glosses naturalism as nothing more than “abandonment of the of a first philosophy prior to natural science”.⁷³

According to a more liberal naturalism, then philosophy is not anti-scientific by contradicting or subordinating the natural sciences. It should not, however, countenance scientism by allowing the sciences a monopoly over all things as the image of philosophy being continuous with the sciences suggests. According to a more liberal naturalism, philosophy and the sciences are on an equal footing. It might be thought that this opens up the sort of pluralism envisioned by Ryle:

“In the way in which a landscape painter paints a good or bad picture of a range of hills, the geologist does not paint a rival picture, good or bad, of those hills, though what he tells us the geology of are the same hills that the painter depicts or misdepicts. The painter is not doing bad geology and the geologist is not doing good or bad landscape painting. In the way in which the joiner tells us what a piece of furniture is like and gets his description right or wrong (no matter whether he is talking about its colour, the wood it is made of, its style, carpentry or period), the nuclear physicist does not proffer a

⁷³ (Quine, 1981, p. 67)

competing description, right or wrong, though what he tells us the nuclear physics of covers what the joiner describes. They are not giving conflicting answers to the same question or to the same sort of question, though the physicist's questions are, in a rather artificial sense of 'about', about what the joiner gives his information about. The physicist does not mention the furniture; what he does mention are, so to speak, bills for such goods as, *inter alia*, bits of furniture."⁷⁴

As Ryle suggests, the non-scientific explanations allowed by a more liberal naturalism should not be conceived as being in conflict with the explanations the sciences provide. While these explanations should retain a degree of autonomy from the sciences, they are still constrained by the need to cohere with what science has told us. This reflects an acceptance of Sellars' view that philosophy should allow us to understand "how things in the broadest possible sense of the term hang together in the broadest possible sense of the term."⁷⁵

Explanatory Gaps

Another area in which scientific-naturalism and a more liberal naturalism agree is on an ambition to leave nothing unexplained. Both aspire to eliminate explanatory gaps, though liberal naturalism has a more tolerant attitude to the sorts of explanations that are admissible, and the sorts of facts that can be assumed as basic.

This means that the liberal naturalist must be on her guard against bootstrapping. For example, the claim that meaning and mind are not reducible to concepts that we take to provide an exhaustive explanation of other animals, neurophysiology or biology, for example, can give the impression of a gap that must be bridged. A liberal naturalism might try to counter this by telling an explanatory story about how children come to learning language in the first instance. It might begin by noting that language learning begins

⁷⁴ (Ryle, 2015, p. 68)

⁷⁵ (Sellars W. , 2007, p. 369)

with capacities about which there is nothing special—drill and repetition, for example. Then at some stage the child begins to form sentences, and eventually it exhibits a partial understanding of the words it uses, before, at last, reaching a stage at which it is a competent speaker. For example, the child may reach a stage where it can say, “I am in pain”, but does not understand that the concept of pain can also be applied to others.⁷⁶ Once this stage has been reached, it is not such a leap to see how the child might be brought to say of others at appropriate moments “They are in pain”, and thereby acquire the concept of pain.

Through such stories of gradually increasing complexity, beginning with primitive capacities that are no more occult than ‘talking’ parrots, a liberal naturalist might try to dispel the mystery surrounding capacities that are not subsumable under the sciences. Part of this might involve showing how those special irreducible capacities and abilities, unique to human beings, are in some sense dependent upon those that are not so special, as in the example above.⁷⁷

Now, one might reject the story of language acquisition above as one that eliminates explanatory gaps. It might be argued that there is a sudden discontinuity between the child as a non-linguistic creature and a concept using one that the explanation does not account for. The point in this context, however, is that a liberal naturalism is committed to eliminating such explanatory gaps, which is part of what entitles it to claim to be a naturalistic position.

One might imagine, for example, a position according to which a creature becoming capable of using concepts was a gift from God. When probed about quite how such an ability came to be gifted, the response might come “God moves in mysterious ways.” According to such a view, the actions of

⁷⁶ Arguably, this shows that the child does not have the concept of pain at all, for our concept of pain is one that can essentially be applied to ourselves in the first person and to others in the third person.

⁷⁷ This is a point made by McDowell. (McDowell, 1998b, p. 190)

God are taken to be basic explanations, despite the fact that they are acknowledged not to be terribly explanatory. My suggestion is that it is not only the commitment to an ontology that includes Gods that renders this sort of view to be a form of non-naturalism (though that would certainly be sufficient), but also its willingness to countenance explanatory gaps in its understanding of the way the world works.

Now, one might think that liberal naturalism is in a better position than scientific-naturalism to eliminate explanatory gaps. Recall the discussion of explanatory gaps in Chapter 2. In order to eliminate them, the workings of a phenomena—for example, language acquisition and use—have to be fully explained. However, in limiting itself to the conceptual resources available to the natural sciences, scientific-naturalism jeopardises its ability to provide a fully explanatory account of many parts of the common-sense picture. While a more liberal naturalism is by no means guaranteed to be able to explain all of the features of the extremely difficult phenomena thrown up by the common-sense picture, it has more tools at its disposal to do so.

Conclusion

In this chapter, I have argued that a naturalism that has been shorn of the sciences—one that holds scientific-naturalism to be false—can still legitimately be considered to be naturalistic.

Much like scientific-naturalism, a more liberal naturalism must still deny the supernatural, but might suffer from circularity or vacuity if it attempts to define itself as an opposition to the supernatural. I therefore outlined an account of what facts can be properly considered to be naturalistic that might be considered anthropocentric. According to it, in addition to the world of the natural sciences, it is legitimate to consider as natural facts that are instituted by human capacities or practices.

A second way in which a less minimalistic world picture can still be naturalistic is by refusing to admit anything that contradicts the best science available. In this respect, liberal naturalism is not unscientific—scientific-naturalism is not, after all, a scientific theory. According to a more liberal naturalism, neither philosophy nor science is subservient to the other. In particular, liberal naturalism eschews the idea of first philosophy—the idea that the sciences must be underpinned by philosophy.

Finally, like scientific-naturalism, a more liberal naturalism can retain a commitment to eradicating explanatory gaps. While naturalistic explanations certainly include those that the sciences have to offer, a more liberal naturalism can add to that category explanations that exhibit the features I have described above. Provided our explanations flout no known propositions of science; provided they are embedded in concrete human practices and capacities; and provided they contain no sudden discontinuities or explanatory gaps, then we should not be troubled by the thought that they are occult or mystical.

‘Can science explain everything?’ is a question that troubles philosophers and non-philosophers alike. I have argued that it cannot. However, this is not to be taken as hostility to science, and certainly not as an endorsement of supernaturalism. The target of this thesis has been scientific-naturalism—the *metaphysical* claim that the sciences are the only game in town—and at a more general level, scientism itself.

If the corollary of rejecting scientific-naturalism is the acceptance of a mystical and spooky supernaturalism, then Scientific-Naturalism is surely justified as a matter of intellectual respectability, despite the consequences for our ordinary conception of meaning and the mental. However, I have argued that there is conceptual space between a worldview exhausted by the sciences, and a worldview infected by the occult. Occupying this space allows us to retain our intuitive conception of meaning, understanding and

the mental, and much else besides. Not only this—it also earns us the right to call ourselves naturalists.

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